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ISO/CD 10303-44 Issues Log

ABSTRACT:

This document is the issues log from the ballot of ISO NWI/CD 10303-44. It contains ballot comments submitted by France, Germany, Netherlands, Sweeden, UK and US.

KEYWORDS:

integrated generic resource, product structure, configuration management, effectivity, issues log, product concept, make from usage, assembly component usage

COMMENTS TO READER:

This is the ballot results of the proposed second edition of Part 44.

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French comments on ISO/CD 10303-44

ISSUE NUMBER: FRA 44-1
AUTHOR: Pascal HUAU
CLAUSE: 5.3.1 PAGE: 24
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
New resources have been added into part 44 to enable the specification of product concepts in a much more complete way than it had been envisioned in the first version. In the new version, the market_context is only one among many criteria, that may be used to characterize a product_concept.
A consequence is that the attribute product_concept.market_context should not be used to characterize product concepts when the new resources provided in part 44 are used. Therefore, this attribute should become OPTIONAL (minimum solution).

Note : in addition, its assignment should be prohibited in the AIM of AP214.

PROPOSED SOLUTION:
Make product_concept.market_context optional and add a rule to have this attribute not present when product_concept is referred to by at least one product_concept_feature_association.

RESOLUTION:

The market_segment_context will remain required due to architectural considerations. Transfer to ISO 10303-214 - suggest that they provide a default population for the general case.

ISSUE NUMBER: FRA 44-2
AUTHOR: Pascal HUAU
CLAUSE: 6.4.1 PAGE: 30
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
The definition of configuration_item does not fit with its usage to map the object
Product_configuration in ISO 10303-203 (where it is used to identify variants).
Therefore, either the mapping has to be changed (which may cause a problem of upward compatibility) or the definition of configuration_item in part 44, has to be changed to reflect the actual meaning of the entity.

Note : this may involve the addition of new entities to deal with requirements corresponding to the initial definition of configuration_item in part 44 (i.e. concept of organ/component of a product belonging to a product_concept)

PROPOSED SOLUTION:
Replace the definition by :
" A configuration_item is a variation of a product_concept.

Note - the variation may be characterized with instances of product_concept_feature. "

RESOLUTION:
Change 1st paragraph of the definition as follows:

A **configuration_item** is the identification of an idea of a product or any of the discrete portions of a product, that is designated for configuration management and treated as a single unit in the configuration management process.

Add to 2nd paragraph (that is being made into a note) the notion of variation of a product_concept.

A **configuration_item** may be a variation of a **product_concept**, an entire **product_concept** or some portion thereof.

ISSUE NUMBER: FRA 44-3
AUTHOR: Pascal HUAU
CLAUSE: 4.3.1 PAGE: 9
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The expression " as determined by the organization " is ambiguous in the sentence " The two products specified in the entity are equivalent with respect to form, fit, and function, as determined by the organization ".
Does it mean that the respect of form, fit and function may be defined by the organization and that the alternative may indeed depend on criteria used by the organization that specifies the alternate_relationship ?

PROPOSED SOLUTION:
If the answer is Yes then Clarify the definition. Otherwise, remove the expression.

RESOLUTION:

Accept:

Remove the third paragraph of 4.3.1

ISSUE NUMBER: FRA 44-4
AUTHOR: Pascal HUAU
CLAUSE: 4.3.1 PAGE: 10
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The definitions of the attributes Description and Basis sound similar: Description is intended to characterize the alternate_relationship but it seems that the same can be said about basis.
Therefore, better definition and/or notes and/or examples should be provided to make more explicit which information shall not be assigned to basis but to description and which information shall not be assigned to description but to basis.

PROPOSED SOLUTION:

RESOLUTION:

Accept:

Add an example for the attribute definition. Example will be added at the end of all the attributes that reads:

EXAMPLE – In the **alternate_product_relationship** for the two bolts defined in example 1, the value of the basis attribute, might be 'head shape', while the value of the definition attribute might be 'alternate for use as fastener in engine assembly'.

ISSUE NUMBER: FRA 44-5
AUTHOR: Pascal HUAU
CLAUSE: 4.3.3 PAGE: 12
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The following sentences depict intended usages of the entity and do not define the entity itself :
" In situations in which a product is made from another product using a sequence of processes, the intermediate products will be related using the **make_from_usage_option** entity.

A product to be modified may be an assembly. "

Therefore, according to ISO directives part 3 (6.5.1) they should become Notes.

PROPOSED SOLUTION:
Insert the Note keyword before each sentence.

An alternate possibility is to include this text in the Application Interpretation Guidelines document.

RESOLUTION:

Make them notes

ISSUE NUMBER: FRA 44-6
AUTHOR: Pascal HUAU
CLAUSE: 4.3.3 PAGE: 12
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The following sentences depict intended usages of the entity and do not define the entity itself :
" A **product_definition** may be the relating_product_definition of many **make_from_usage_-option** relationships, and a **product_definition** may be the related_product_definition of many **make_from_usage_option** relationships. Further, there may be multiple **make_from_usage_-option** instances referencing the same relating_product_definition and related_product_definition pair of **product_definition**s. "

Therefore, according to ISO directives part 3 (6.5.1) they should become Notes.

PROPOSED SOLUTION:
See proposal above.

RESOLUTION:

Accept -

Make them notes

ISSUE NUMBER: FRA 44-7
AUTHOR: Pascal HUAU
CLAUSE: 4.3.3 PAGE: 12
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
It was agreed during WG12 workshop at NIST (July 97) that the rule constraining the attribute
ranking shall be removed (see doc. WG12N100).

PROPOSED SOLUTION:
Remove the rule.

RESOLUTION:

Accept - remove the rule.

ISSUE NUMBER: FRA 44-8
AUTHOR: Pascal HUAU
CLAUSE: 4.3.4 PAGE: 13
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The following sentence depicts an intended usage of the entity and does not define the entity itself :
" The **make_from_usage_option_group** is used to indicate that several different products may be made
from a single product. "

Therefore, it should become a Note.

PROPOSED SOLUTION:
Insert the Note keyword before the sentence and move it after the actual definition.

RESOLUTION:

Accept - make it a note after the first paragraph

ISSUE NUMBER: FRA 44-9
AUTHOR: Pascal HUAU
CLAUSE: 4.3.4 PAGE: 14
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
In the following definition

" **members**: a collection of **make_from_usage_option** instances whose relating_product_definition instances may be made from the same related_product_definition. ", the word " collection " should be replaced by the expression " set of two or more " in order to reflect the EXPRESS

PROPOSED SOLUTION:
Replace as indicated.

RESOLUTION:

Accept:

change definition to read: "A collection of at least two....."

ISSUE NUMBER: FRA 44-10
AUTHOR: Pascal HUAU
CLAUSE: 4.3.8 PAGE: 19
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
Rule WR5 (of specified_higher_usage_occurrence) does not correspond to the constraint in the textual definition of the entity. The text definition reads (5th paragraph) : " If the **assembly_- component_usage** referenced by the attribute upper_usage is not a **next_assembly_usage_occurrence** it shall be a **specified_higher_usage_occurrence** " whereas the rule checks that upper_usage does not refer to a promissory_usage_occurrence.
This is not consistent and satisfactory because, in particular, assembly_component_usage is not an abstract supertype and have other subtypes than the 3 mentioned above.

PROPOSED SOLUTION:
Replace the rule by :
```
WR5: SIZEOF(['PRODUCT_STRUCTURE_SCHEMA.NEXT_ASSEMBLY_USAGE_OCCURRENCE',
'PRODUCT_STRUCTURE_SCHEMA.SPECIFIED_HIGHER_USAGE_OCCURRENCE']*
        TYPEOF(upper_usage))=1;
```

Then, update the corresponding formal proposition.

Resolution:

Incorporate proposed solution.

ISSUE NUMBER: FRA 44-11
AUTHOR: Pascal HUAU
CLAUSE: 4.3.8 PAGE: 18
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The second paragraph of the text definition is wrong or, at least, does not correspond to any formal or informal proposition on the entity.

Note : Nothing prevents or should prevent for using, in an assembly tree, specified_higher_usage_occurrence when it is needed and other subtypes of assembly_component_usage when they are needed.

PROPOSED SOLUTION:
Remove the paragraph.

RESOLUTION:

Accept - the paragraph is misleading, remove the paragraph

ISSUE NUMBER: FRA 44-12
AUTHOR: HUAU Pascal
CLAUSE: 4.3.8 PAGE: 18
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
The first sentence of the text definition (" The two attributes (upper_usage and next_usage) within the primary instance of the entity **specified_higher_usage_occurrence** shall respectively specify the **next_-assembly_usage_occurrence** and an **assembly_component_usage** which together will provide the definition of the path from the constituent to the assembly for which the **specified_higher_usage_-occurrence** is being specified. ") lists the referred entities in the wrong order since upper_usage refers to an assembly_component_usage and not to a next_higher_usage_occurrence.

PROPOSED SOLUTION:
Reorder the entities in the sentence.

RESOLUTION:

Accept - incorporate proposed solution

ISSUE NUMBER: FRA 44-13
AUTHOR: HUAU Pascal
CLAUSE: 4.3.8 PAGE: 18
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The 6th paragraph of the definition (" In order to be able to completely specify a **specified_higher_-usage_occurrence** all the necessary **assembly_component_usage** instances shall have been defined. ") does not mean anything, or any valuable thing.

PROPOSED SOLUTION:
Remove this paragraph or improve it to make it meaningful and useful.

RESOLUTION:

Accept - remove the paragraph

ISSUE NUMBER: FRA 44-14
AUTHOR: HUAU Pascal
CLAUSE: 4.3.8 PAGE: 18
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:

The 7th paragraph of the definition is not wrong but it brings an information also valid for the other main subtypes of assembly_component_usage. Therefore, this paragraph is useless, as it is.

PROPOSED SOLUTION:
Remove this paragraph or improve it to bring a meaningful and useful information about the entity specified_higher_usage_occurrence.

RESOLUTION:

Accept -

Remove first sentence, make the second sentence a note: remove "typically", add the concept that the shuo is used when a sub-assembly is used in more than one assembly structure.

ISSUE NUMBER: FRA 44-15
AUTHOR: HUAU Pascal
CLAUSE: 4.1   PAGE: 6
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The Introduction clause lists and defines all the entities of the schema. This is redundant with the own definitions of these entities and useless.

PROPOSED SOLUTION:
Remove in the introduction all the text mentioning EXPRESS entities.

RESOLUTION:

Accept -

Incorporate the proposed solution

ISSUE NUMBER: FRA 44-16
AUTHOR: HUAU Pascal
CLAUSE: 4.3.1 PAGE: 10
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
In the definition of the attribute Basis, the expression " domain of applicability " partially contradicts the definition of the entity because it sounds like the definition of a kind of effectivity for the relationship.
Therefore, this expression should be replaced by a text explaining that this attribute is intended to precise the criteria met by the two products that have enabled to create this alternate_relationship (we need to explain Why they are alternate and not Until when or until which " bound ").

PROPOSED SOLUTION:
Replace " domain of applicability " by " criteria that led to consider the product referred to by alternate as a possible alternate for the product referred to as base ".

Resolution - Accept

Rewrite first paragraph of definition to say:

The alternate product relationship is an association between two products whereby one product, the alternate product, is interchangable with another product, the base product. Replace " domain of applicability of the alternate product " by " criteria used to consider the alternate product as interchangable with the base product".

ISSUE NUMBER: FRA 44-17
AUTHOR: HUAU Pascal
CLAUSE: 4.3.1 PAGE: 9
CLASSIFICATION: MAJOR, TECHNICAL/EDITORIAL
DESCRIPTION:
The following sentence of the text definition (" The use of the **alternate_product_relationship** entity shall be defined in the context of the product structure of the base product. ") is not clear. Does it mean that the base product may have different alternates, depending in which assembly it is used ? In that case, there should be an additional attribute in the entity, referring to the considered assembly.
Does it only mean that the alternate product is intended to replace the base product in assemblies where this latter is used ? In that case, it should be explained that the relationship does not involve implicit assembly relationships between the components and the base product and the alternate product (i.e. the components of the base product are not, implicitly, components of the alternate product).

PROPOSED SOLUTION:
Remove the sentence or clarify it.

Resolution:

Accept - remove first sentence of the fourth paragraph. Remove "use of" from second sentence. Change last sentence to read, "If B is an alternate product for A, A is not an implicit alternate product for B." Add another paragraph after the note to discuss ramifications of the components of the base w/ repect to alternates being identified:

An **alternate_product_relationship** for which the base product is an assembly specifies that the entire product structure of the base product is interchangable with the alternate product and its product structure.

ISSUE NUMBER: FRA 44-18
AUTHOR: HUAU Pascal
CLAUSE: 4.3.3 PAGE: 11

CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
The following sentence in the definition (" The **make_from_usage_option** is a **product_-definition_usage** that identifies that a product is made from another product through some unspecified process ") is ambiguous because it contains the word " product " and because the entity defines a relationship at the product_definition level : does the make_from_usage_option apply to any historical version of the two related products ? Does the make_from_usage_option apply for any stage in the life cycles of the two related products ?

PROPOSED SOLUTION:
The make_from_usage_option should only be valid for the life cycle stages listed in the product_definition_contexts of the two related product_definitions.

Therefore, the meaning (the definition) of an instance of make_from_usage_option should be :
" at the life cycle stages of the related product_definitions, it has been considered that the relating product shall be made from the related one. "

In addition, the definition of the inherited attributes relating_product_definition and related_product_definition should be modified to take into account this new definition.

Notes :
■   there might be a need for a make_from relationship independent of the life cycle stages, but this relationship should be covered by a new entity relating two instances of product.

RESOLUTION:

Add the following sentence to product_definition_usage:

The pdu establishes that, at the life cycle stages of the two product_definitions, it has been considered that the related product shall be used in the context of the relating one.

The pdu establishes a relationship in which the related product is used in the context of the relating product based upon consideration of the life cycle stages of the two product_definitions that are rerferenced.

Remove fourth paragraph of the mfuo as it is ambiguous with respect to the modified definition.

ISSUE NUMBER: FRA 44-19
AUTHOR: HUAU Pascal
CLAUSE: 4.3.5 PAGE: 14
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
As the entity relate 2 product_definitions and not 2 products, the definition should make explicit the fact that the assembly relationship is only valid on the contexts of the related product_definitions.

PROPOSED SOLUTION:
Add in the definition :

" The meaning of the entity is that, at the life cycle stages of the related instances of product_definition, it has been considered that the relating product shall include, as a constituent, the related one. "

RESOLUTION:

Accept - OBE (see FRA 44-18)

ISSUE NUMBER: FRA 44-20
AUTHOR: HUAU Pascal
CLAUSE: 4.3.6 PAGE: 17
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
The informal rule should be replaced by a formal one.

PROPOSED SOLUTION:
Replace IP1 by :
"

WR2 : (NOT 'NUMBER' IN TYPEOF(quantity.value_component)) XOR (quantity.value_component >0) ;

Formal proposition :
WR2 : if the quantity of the constituent is expressed numerically, its value shall be greater than 0. "

RESOLUTION:

Accept - move to formal proposition.

ISSUE NUMBER: FRA 44-21
AUTHOR: HUAU Pascal
CLAUSE: 4.3.10   PAGE: 21
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The following sentence in the definition is not satisfactory : " Within a given context, if A is specified as a substitute for B, B is not assumed to be a substitute for A, unless explicitly stated so in another instance of the entity. "
In fact, the symmetry of the substitution shall not be made explicit in another instance but in the annotated EXPRESS schema that use or specialize the entity **assembly_component_usage_-substitute.**
(because such an information cannot be given at the instance level without having been defined at the schema level).

PROPOSED SOLUTION:
Replace " unless explicitly stated so in another instance of the entity " by " unless explicitly stated so in an annotated EXPRESS schema that uses or specializes the entity **assembly_component_usage_-substitute**, or, by default, in an Agreement of Common Understanding between the partners sharing this information. "

RESOLUTION:

Accept - rewrite paragraph to be consistent with the change made to alternate_product_ relationship (see FRA 44-17) as follows:

This entity defines one-way substitution only. Within a given context, if A is specified as a substitute for B, B is not an implicit substitute for A.

ISSUE NUMBER: FRA 44-22
AUTHOR: HUAU Pascal
CLAUSE: 5.2   PAGE: 23
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The following sentence in the enumeration is not satisfactory : " A product concept may be composed of several configuration items ". The problem is that the expression " configuration items " is far from being clear.
(see also issue FRA 44-2).
Does a configuration item correspond to a physical part? Does "composed" mean "is the assembly of " or "is the set of"?

PROPOSED SOLUTION:
Improve the clarity of the sentence.

RESOLUTION:

Accept -

Modify bullet to read, "A product concept may have several configuration items (see 6.4.1) identified for it."

ISSUE NUMBER: FRA 44-23
AUTHOR: HUAU Pascal
CLAUSE: 5.3.1 PAGE: 24
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The expression " as defined by customer needs " in the first sentence is not satisfactory because it is not true that a product(concept) always respond to customer needs.

PROPOSED SOLUTION:
Replace the first sentence by :
" A **product_concept** is the identification of a collection of similar products that are or were intended to be proposed to the potential customers of a company.

Note - The entity **product_concept** differs from the entity **product** in the sense that the latter one shall be used to gather the data defining the objects to be produced whereas the first one shall be used to gather the data enabling the selection of one of the products grouped under the " banner " of the considered product_concept by a customer or by a person in charge of dealing with customer requests. "

RESOLUTION:

Accept -

Modify the definition of product_concept to read:

A product_concept is the idea of a class of similar products as identified by potential or actual customer requirements.

Delete the second sentence of the definition.

ISSUE NUMBER: FRA 44-24
AUTHOR: HUAU Pascal
CLAUSE: 5.3.2 PAGE: 25
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
As the entity enables to create a relationship between two product_concepts but does not define any meaning for the relationship, the following sentence should be added :
" The meaning of the relationship shall be defined in the annotated EXPRESS schemata that use or specialize this entity, or, by default, in an Agreement of Common Understanding among the partners exchanging or sharing this information.

Note - The concept of Agreement of Common Understanding is defined in ISO 10303-41. "

PROPOSED SOLUTION:
Add the proposed sentence.

RESOLUTION:
Accept -

Include the proposed solution in a note.

ISSUE NUMBER: FRA 44-25
AUTHOR: HUAU Pascal
CLAUSE: 5.3.3 PAGE: 25
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
We do not understand the following sentence : " A **product_concept_feature** related to a **product_- concept** may be the basis for a **configuration_item**. ". What does " the basis for a configuration_item " mean ?

If this sentence relates the fact that product_concept_feature_association may be referred to by a configurable_item, the sentence should be improved to make this possible relationship more obvious.

PROPOSED SOLUTION:
Rework the sentence to make it clear.

RESOLUTION:

Accept –

A **product_concept_feature** as it is related to a **product_concept** may define the content of a **configuration_item**.

ISSUE NUMBER: FRA 44-26
AUTHOR: HUAU Pascal
CLAUSE: 6.4.6 PAGE: 34
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
(see before issue FRA 44-45)

The EXPRESS modeling is not consistent with the text definition : it misses a rule to enforce the members of to refer to the same instance of product_concept.

PROPOSED SOLUTION:
Add the following rule :
WR1 : SIZEOF(pcfa <* item_concept_feature | pcfa.concept := : item_concept_feature[1].concept) = SIZEOF(item_concept_feature) ;

Add the corresponding formal proposition.

RESOLUTION:

Accept - the definition defines the usage of the product_concept as it relates to the product_concept_feature in this context. See FRA 44-45 for the definition that replaces the present definition.

ISSUE NUMBER: FRA 44-27
AUTHOR: HUAU Pascal
CLAUSE: 5.3.4 PAGE: 26
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The text definition is not satisfactory : a product_concept_feature does not identify a basic idea but a criteria (that may not be basic) used to distinguish variations among the products of one or more product_concepts.

Example - 'Luxury equipment' is a criteria enabling to distinguish between a standard, low-price car and a top-class one.

PROPOSED SOLUTION:
Replace the definition by :
" A product_concept_feature identifies a characteristic used to distinguish variations among the products of one or more product_concepts.

Example - 'Luxury equipment' is a criteria enabling to distinguish between a standard, low-price car and a top-class one.
"

RESOLUTION:

Accept -

modify the proposed solution to say … characteristic intended to be used to ……

Example - 'Luxury equipment' is a characteristic that distinguishes between a standard, low-price car and a top-class one.

ISSUE NUMBER: FRA 44-28
AUTHOR: HUAU Pascal
CLAUSE: 5.3.4 PAGE: 26
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
The definition of the entity and of its attributes are not satisfactory, with respect to the actual requirements.
Defining a product_concept_feature is not sufficient, it is also needed to categorize it. E.g. '2500 cm3 - Turbo' is a concept feature belonging to the feature category 'engine'.
Presently, Part 44 does not enable this categorization.

Note : A category of " features " may contain 0 to many " features ". A " feature " mandatorily belongs to a category.

In addition, the new entities of Part 44 have been created to deal with the requirements of the ARM of AP214. In this ARM, we find the objects product_class, specification and class_specification_association that correspond respectively to product_concept, product_concept_feature and product_concept_feature_association. But we find also specification_category and class_category_association that have no equivalent in Part 44. We, therefore, do not understand why no resource has been provided to deal with these two objects.

Note : this lack presently involves a complex mapping and a complex instanciation scheme in AP214 whereas adding two appropriate new entities in Part 44 will make the AIM much simpler and would not create any problem with any other AP.

PROPOSED SOLUTION:
Add two new entities, corresponding to the application objects specification_category and class_category_association of AP214.

RESOLUTION:

Accept - add a note that specifies the interpretation practice of the use of group structures for categorization of product_concept_features

The note reads as follows:

NOTE - The categorization of product_concept_features is accomplished through the mechanisms defined in ISO 10303-41 for collecting product data into groups. The name of the group indicates the category of the collected items.

Add '2500 cm3 - Turbo' as an example of the pcf.name attribute
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ISSUE NUMBER: FRA 44-29
AUTHOR: HUAU Pascal
CLAUSE: 5.3.3 PAGE: 25
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
As the entity enables to create an association between a product_concept and a product_concept_feature but does not define any meaning for the association, the following sentence should be added :
" The meaning of the association shall be defined in the annotated EXPRESS schemata that use or specialize this entity, or, by default, in an Agreement of Common Understanding among the partners exchanging or sharing this information.

Note - The concept of Agreement of Common Understanding is defined in ISO 10303-41. "

PROPOSED SOLUTION:
Add the proposed sentence.

RESOLUTION:

Accept - incorporate the proposed solution.

ISSUE NUMBER: FRA 44-30
AUTHOR: HUAU Pascal
CLAUSE: 5.3.6 PAGE: 27
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
As the entity enables to create a relationship between two product_concept_features but does not define any meaning for the relationship, the following sentence should be added :
" The meaning of the relationship shall be defined in the annotated EXPRESS schemata that use or specialize this entity, or, by default, in an Agreement of Common Understanding among the partners exchanging or sharing this information.

Note - The concept of Agreement of Common Understanding is defined in ISO 10303-41. "

PROPOSED SOLUTION:

RESOLUTION:

Accept -

Include the material in the description

ISSUE NUMBER: FRA 44-31
AUTHOR: HUAU Pascal
CLAUSE: 5.3.6 PAGE: 27
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
It is not clear from the definition of the attributes which one should be used to convey the semantics of the relationship.

PROPOSED SOLUTION:
Make clear in the definition of name or description, which attribute shall be used to depict the meaning of the relationship.

Alternatives to consider:

The definitions will remain the standard agreed definitions agreed by QC.

1. Add a note that directs the reader to the clause in the AIM procedures that discusses the mapping of the semantics of the meaning of the relationship to the name attribute of the relationship entities.

2. Add a note in the form of:

NOTE n - The name may be a label that designates a particular instance of xxxx, or the kind of information that an instance of xxxx conveys.

RESOLUTION

ISSUE NUMBER: FRA 44-32
AUTHOR: HUAU Pascal
CLAUSE: 5.3.2 PAGE: 25
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
It is not clear from the definition of the attributes which one should be used to convey the semantics of the relationship.

PROPOSED SOLUTION:
Make clear in the definition of name or description, which attribute shall be used to depict the meaning of the relationship.

RESOLUTION:

Accept – INCLUDE RESOLUTION SPECIFIED IN FRA 44-31

ISSUE NUMBER: FRA 44-33
AUTHOR: HUAU Pascal
CLAUSE: 5.3.3 PAGE: 25
CLASSIFICATION: MAJOR, EDITORIAL

DESCRIPTION:
It is not clear from the definition of the attributes which one should be used to convey the semantics of the relationship.

PROPOSED SOLUTION:
Make clear in the definition of name or description, which attribute shall be used to depict the meaning of the relationship.

RESOLUTION:

Accept – INCLUDE RESOLUTION SPECIFIED IN FRA 44-31

ISSUE NUMBER: FRA 44-34
AUTHOR: HUAU Pascal
CLAUSE: 5.3.7 PAGE: 27
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
As the entity enables to create a particular relationship between two product_concept_features but does not define any meaning for the operator, the following sentence should be added :
" The meaning of the conditional_operator and the list of allowed values for this attribute shall be defined in the annotated EXPRESS schemata that use or specialize this entity, or, by default, in an Agreement of Common Understanding among the partners exchanging or sharing this information.

Note - The concept of Agreement of Common Understanding is defined in ISO 10303-41. "

PROPOSED SOLUTION:
Add the proposed text.

RESOLUTION:

Accept -

Add the proposed text to concept_feature_operator.name attribute as follows:

" The meaning of the conditional_operator and the list of allowed values for the name attribute shall be defined in the annotated EXPRESS schemata that use or specialize this entity, or, by default, in an Agreement of Common Understanding among the partners exchanging or sharing this information.

Note - The concept of Agreement of Common Understanding is defined in ISO 10303-41. "

ISSUE NUMBER: FRA 44-35
AUTHOR: HUAU Pascal
CLAUSE: 6.2   PAGE: 29
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:

The following sentence (" Configuration of parts supplied by a vendor is not included ") is wrong as there is nothing in the IRs that makes this impossible.

PROPOSED SOLUTION:
Remove the sentence and the associated example.

RESOLUTION:

Accept -

Adopt the proposed solution.

ISSUE NUMBER: FRA 44-36
AUTHOR: HUAU Pascal
CLAUSE: 6.4.2 PAGE: 31
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
In the following sentence of the definition (" Thus, a **configuration_design** entity represents the association of a **configuration_item** with a **product_definition** or **product_definition_formation** to specify that the corresponding design is for the specific **configuration_item** ", we do not understand the meaning of " is for the specific **configuration_item** ".
Does it mean that this association establishes the fact that the configuration_design_item is a candidate, among possible others, to solve the requirement established with configuration_item ?

PROPOSED SOLUTION:
Clarify the definition.

RESOLUTION:

Accept -

Modify the definition of configuration_design to replace, "…..for the specific configuration_item." with "….an element of a solution for a given configuration_item"

ISSUE NUMBER: FRA 44-37
AUTHOR: HUAU Pascal
CLAUSE: 6.4.1 PAGE: 30
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
We do not understand the meaning of the following sentence of the definition : " The design and production of the composition and constituents for this identified unit is an approach for configuration management ".
In what sense, the design of a part is related with configuration management ?

PROPOSED SOLUTION:
Clarify the definition or remove the sentence.

RESOLUTION:

Accept -

OBE (see FRA 44-2)

ISSUE NUMBER: FRA 44-38
AUTHOR: HUAU Pascal
CLAUSE: 6.4.1 PAGE: 30
CLASSIFICATION: Minor, Editorial
DESCRIPTION:
The following sentence of the definition (" The association between a **configuration_item** and a corresponding **product_definition** or **product_definition_formation** is established using a **configuration_design**. ") should only be a Note (as it does not define the entity itself).

PROPOSED SOLUTION:
Include this sentence in a Note.

RESOLUTION:

Accept - move to a note.

ISSUE NUMBER: FRA 44-39
AUTHOR: HUAU Pascal
CLAUSE: 6.4.2 PAGE: 31
CLASSIFICATION: Minor, Editorial
DESCRIPTION:
In Note 1, the verb " may " should be inserted before " establish " .

PROPOSED SOLUTION:

RESOLUTION:

Accept -

Insert the word, "may"

ISSUE NUMBER: FRA 44-40
AUTHOR: HUAU Pascal
CLAUSE: 6.4.2 PAGE: 32
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The definition of the attribute Configuration is not consistent with the type referred to by the attribute Design.
In addition, we do not understand the expression " manufacturing actual units ". Why " actual " ?
Why " manufacturing " and not " delivering " ?

PROPOSED SOLUTION:
Rework the definition.

RESOLUTION:

Accept -

Rework the definition consistent with the change to the definition of the entity configuration_item.

Configuration: a configuration_item that specifies that the product_definition or product_definition_formation is a candidate to be treated as a single unit in the configuration management process.

Design: a product_definition or product_definition_formation representing a design that is a candidate to be treated as a single unit in the configuration management process.

ISSUE NUMBER: FRA 44-41
AUTHOR: HUAU Pascal
CLAUSE: 6.4.3 PAGE: 32
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
We do not understand what " the applicability of the usage of ... " mean.
In addition ; the supertype of the entity (product_definition_effectivity) is already the identification of a valid use in a context. Therefore, the definition should also explicit this aggregation of contexts.

PROPOSED SOLUTION:
Reuse partly the definition of product_definition_effectivity, i.e. :
" A configuration_effectivity is the identification of the valid use of a particular product_definition in the context of its participation, as related_product_definition, in a product_definition_usage and of its role of possible solution for a given configuration_item. "

RESOLUTION:

Accept - modify the definition of configuration_effectivity to:

" A configuration_effectivity is the identification of the valid use of a particular product_definition in the context of its participation, as related_product_definition, in a product_definition_usage as an element of a solution for a given configuration_item. The solution for a configuration_item is specified by the configuration_design given in the configuration attribute."

ISSUE NUMBER: FRA 44-42
AUTHOR: HUAU Pascal
CLAUSE: 6.4.3 PAGE: 32
CLASSIFICATION: MAJOR, EDITORIAL

DESCRIPTION:
The example 19 about the engine 200HP is contradictory with the definition that states that the effectivity applies to a product_definition_usage (because the engine is a product, a priori independent of any product_definition_usage).

PROPOSED SOLUTION:
Propose an example consistent with the definition.

RESOLUTION:

Accept - remove first sentence of example. use an fuel injection pump in a 200 HP engine is effective for a certain date range in a particular car.

ISSUE NUMBER: FRA 44-43
AUTHOR: HUAU Pascal
CLAUSE: 6.4.3 PAGE: 33
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
As now configuration_design may also point to a product_definition_formation, there should be :
- either a rule to enforce the attribute Configuration to refer to an instance of configuration_design referring to a product_definition ;
- or, the definition of the entity should be modified to take into account the case where a product_definition_formation is referred to ;
- or, a new entity should be created to deal with this new case.

PROPOSED SOLUTION:
Make the entity consistent with the requirements and with the extension of configuration_design.design.

RESOLUTION:

Reject - based on a misunderstanding that has since been clarified.

ISSUE NUMBER: FRA 44-44
AUTHOR: HUAU Pascal
CLAUSE: 6.4.3 PAGE: 33
CLASSIFICATION: MINOR, EDITORIAL
DESCRIPTION:
In the definition of the attribute Configuration, " is effectivity " should be replaced by " applies ".

PROPOSED SOLUTION:

RESOLUTION:

Accept -

Incorporate proposed solution

ISSUE NUMBER: FRA 44-45
AUTHOR: HUAU Pascal
CLAUSE: 6.4.6 PAGE: 34
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
The definition and the EXPRESS modeling of the entity is not satisfactory :
- as it is a subtype of configuration_item, the definition of the supertype should also be valid for this entity : but, both definitions are quite different ;
- are all the instances of product_concept_feature_association, referred to by item_concept_feature, expected to refer to the same product_concept or is there no constraint ?
- what value is expected in configurable_item\configuration_item.item_concept ?

Finally, it is quite impossible to understand the purpose of this new entity and how to use it.
Examples are quite needed.

PROPOSED SOLUTION:
Rework the entity, possibly with converging to what is required and defined in AP214.

RESOLUTION:

Accept - replace the definition to read as follows:

"A configurable_item is a configuration_item that is characterized by a set of product_concept_ features that have been identified for use in a product_concept. Product_concepts specifed by the product_concept_feature_associations shall be the same as or related to the one referenced by the inherited item_concept attribute."

Add an example to be provided by J. Mohrmann.

ISSUE NUMBER: FRA 44-46
AUTHOR: HUAU Pascal
CLAUSE: 6.4.7 PAGE: 35
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
It is impossible to figure out the intended usage(s) of this new entity without any example.
In particular, examples for role should be given.

PROPOSED SOLUTION:

RESOLUTION:

Accept -

Discussion of the intended usage of this entity led to the conclusion that it is not necessary, and its original inclusion was due to a misunderstanding of some requirements. Therefore, clauses 6.4.7 and 6.4.8 should be removed from the part.

ISSUE NUMBER: FRA 44-47
AUTHOR: HUAU Pascal
CLAUSE: 6.4.7 PAGE: 35
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
As the entity enables to create a particular relationship between a configuration_item and a configuration_item_context but does not define any meaning for the relationship, this meaning should be made explicit in the definition, or, the following sentence should be added :
" The meaning of the relationship shall be defined in the annotated EXPRESS schemata that use or specialize this entity, or, by default, in an Agreement of Common Understanding among the partners exchanging or sharing this information.

Note - The concept of Agreement of Common Understanding is defined in ISO 10303-41. "

PROPOSED SOLUTION:
Add the proposed text.

RESOLUTION:

Accept -

OBE - entity has been removed by FRA-44-46

ISSUE NUMBER: FRA 44-48
AUTHOR: HUAU Pascal
CLAUSE: 6.4.9 PAGE: 36
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
As the entity enables to create a particular relationship between two configuration_items but does not define any meaning for the relationship, the following sentence should be added :
" The meaning of the relationship shall be defined in the annotated EXPRESS schemata that use or specialize this entity, or, by default, in an Agreement of Common Understanding among the partners exchanging or sharing this information.

Note - The concept of Agreement of Common Understanding is defined in ISO 10303-41. "

PROPOSED SOLUTION:
Add the proposed text.

RESOLUTION:

Accept -

Incorporate the proposed solution

ISSUE NUMBER: FRA 44-49
AUTHOR: HUAU Pascal
CLAUSE: 6.4.9 PAGE: 36

CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
It is not clear from the definition of the attributes which one should be used to convey the semantics of the relationship.

PROPOSED SOLUTION:
Make clear in the definition of name or description, which attribute shall be used to depict the meaning of the relationship.

RESOLUTION:

Accept – INCLUDE RESOLUTION SPECIFIED IN FRA 44-31

ISSUE NUMBER: FRA 44-50
AUTHOR: HUAU Pascal
CLAUSE: 6.4.9 PAGE: 36
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
It is not clear from the definition of the attributes which one should be used to convey the semantics of the relationship.

PROPOSED SOLUTION:
Make clear in the definition of name or description, which attribute shall be used to depict the meaning of the relationship.

RESOLUTION:

Reject - same as FRA 44-49

ISSUE NUMBER: FRA 44-52
AUTHOR: HUAU Pascal
CLAUSE: 6.4.3 PAGE: 32
CLASSIFICATION: MAJOR, EDITORIAL/TECHNICAL
DESCRIPTION:
The definition of the entity does not fit with its EXPRESS modeling : the definition states that it defines an applicability in the context of a configuration_item whereas the attribute configuration refers to a configuration_design.

Note - the example is also unconsistent with the EXPRESS modeling.

PROPOSED SOLUTION:
Make the attribute Configuration refer to configuration_item or change the definition.

RESOLUTION:

Accept - modify definition of configuration_effectivity as defined in FRA 44-41.

ISSUE NUMBER: FRA 44-53

AUTHOR: HUAU Pascal
CLAUSE: 6.4.3 PAGE: 32
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
The present definition does not mention any constraint for
configuration_effectivity.configuration_design.design with respect to
configuration_effectivity\product_definition_effectivity.usage. Therefore, the
product_definition(_formation) referred to by the first mentioned attribute may not be part of the
relationship referred to by the second one.

PROPOSED SOLUTION:
In order to avoid misusages of configuration_effectivity, there should be a proposition enforcing
that the two product related through the product_definition_usage be components of the product
reached through configuration_design.

RESLOLUTION:

Accept - add an informal proposition in configuration_effectivity that specifies that the
relating_product_definition shall be a component of the configuration_design.design. The
proposition is as follows:

IP1: The relating_product_definition of the product_definition_usage referenced by the usage
attribute shall be the same instance of product_definition as the one referenced by the design
attribute of theconfiguration_design, or it shall be related to that instance in a tree of
assembly_component_usage instances.

ISSUE NUMBER: FRA 44-54
AUTHOR: HUAU Pascal
CLAUSE: 5.3.3 PAGE: 25
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
We guess (see issue FRA 44-33) that the entity has been designed in such a way that the attribute
name shall be used to give a name to the kind of association that is created.
Therefore the textual definition of the attribute should be more clear.

PROPOSED SOLUTION:
Replace the definition of Name by:
"Name: the label that specifies the kind of association that is considered."

RESOLUTION:

Accept – INCLUDE RESOLUTION SPECIFIED IN FRA 44-31

ISSUE NUMBER: FRA 44-55
AUTHOR: HUAU Pascal
CLAUSE: 5.3.2 PAGE: 25
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:

We guess that the entity has been designed in such a way that the attribute name shall be used to give a name to the kind of association that is created.
Therefore the textual definition of the attribute should be more clear.

PROPOSED SOLUTION:
Replace the definition of Name by:
"Name: the label that specifies the kind of association that is considered."

RESOLUTION:

Accept – INCLUDE RESOLUTION SPECIFIED IN FRA 44-31

ISSUE NUMBER: FRA 44-56
AUTHOR: HUAU Pascal
CLAUSE: 6.4.3 PAGE: 32
CLASSIFICATION: MAJOR, EDITORIAL/TECHNICAL
DESCRIPTION:
The definition of the entity provides insufficient information for the case where the subtypes serial_numbered_effectivity or lot_effectivity. With which entity is the serial_number or the lot number associated: with the component (i.e. usage.related_product_definition), with the assembly (i.e. usage.relating_product_definition), with the configuration_item referred to as configuration.configuration ?

PROPOSED SOLUTION:
Remove the ambiguity by choosing one of the mentioned possibilities or add the following text:
"In the case where the applicability of the product_definition_usage is defined using serial_numbered_effectivity or lot_effectivity, the entity for which the serial number or the lot number is constrained shall be specified in the annotated EXPRESS schema that use or specialize the present entity, or by default, in an Agreement of Common Understanding between the partners sharing this information."

RESOLUTION:

Accept - add second paragraph to the definition of configuration_effectivity:

"In the case where the applicability of the product_definition_usage is defined using serial_numbered_effectivity or lot_effectivity, the entity for which the serial number or the lot number is constrained is specified for the product identified by the configuration_design."

ISSUE NUMBER: FRA 44-57
AUTHOR: HUAU Pascal
CLAUSE: 4.3.1 PAGE: 9
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The first sentence of the definition is not acceptable for a SC4 standard ("is used to convey").
The definition should define what Is the entity and not its intended usage.

PROPOSED SOLUTION:
Replace the first sentence by:
"An alternate_product_relationship is the specification of the fact that a product may be used as an alternate for another product."

RESOLUTION:

Accept -

OBE - see FRA 44-16

ISSUE NUMBER: FRA 44-58
AUTHOR: HUAU Pascal
CLAUSE: 4.3.1 PAGE: 9
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
We do not understand the meaning of "The use of the alternate_product_relationship entity shall be defined in the context of the product structure of the base product".
Is it really the use of the relationship entity or the use of the alternate product that is meant here?

PROPOSED SOLUTION:
Remove this sentence.

RESOLUTION:

Accept -

OBE - see FRA 44-17

ISSUE NUMBER: FRA 44-59
AUTHOR: HUAU Pascal
CLAUSE: 4.3.1 PAGE: 9
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The last two sentences are not satisfactory:
- "need not" should be replaced by "may not";
- the meaning of the expression "it is not required that" is not clear. Who requires: the standard?
The user that instanciates this entity? Does "it is not required" mean "it is not meant"?
- In addition, there should be a sentence to explain how to deal with really symmetric relationships.

PROPOSED SOLUTION:
Make the proposed replacement and add the following note "This entity may be specialized in an annotated EXPRESS schema, to enable the identification of actual symmetric alternate relationships.

RESOLUTION:

Reject -

FRA 44-17 has a resolution that is diametrically opposed to the proposal in this issue

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ISSUE NUMBER: FRA 44-60
AUTHOR: D. Molin
CLAUSE: 4.3.3 PAGE: 12
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The first paragraph of this page does not define the entity but only provides further information about its usage. Therefore, according to ISO directives part 3 (6.5.1), it should become a informative Note.

PROPOSED SOLUTION:
See above.

RESOLUTION:

Accept -

Modify first sentence to read:

"The **make_from_usage_option** is a **product_definition_usage** in which one product is transformed into another product through some unspecified process.

ISSUE NUMBER: FRA 44-61
AUTHOR: HUAU Pascal
CLAUSE: 4.3.4 PAGE: 13, 14
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The third and fourth paragraphs of the definition do not define the entity but only provides further information about its usage. Therefore, according to ISO directives part 3 (6.5.1), it should become informative Notes.

PROPOSED SOLUTION:
See above.

RESOLUTION:

Accept -

Make them notes.

ISSUE NUMBER: FRA 44-62
AUTHOR: HUAU Pascal
CLAUSE: 4.3.7 PAGE: 17
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:

The third sentence of the definition ("the use …") does not define the entity but only provides further information about its usage. Therefore, according to ISO directives part 3 (6.5.1), it should become an informative Note.

PROPOSED SOLUTION:
See above.

RESOLUTION:

Accept -

Make the second and third sentences part of NOTE 1.

Modify the second sentence to: "An instance of next_assembly_usage_occurrence represents an indivudual occurrence of a constituent in an assembly."

Modify the third sentence to read, "Each specific use of the same constituent may be represented by another distinct next_assembly_usage_occurrence instance for the purpose of assigning property information such as a position and orientation for the constituent."

Modify the first sentence in the existing NOTE 1 to replace "This position and orientation…." with "This property…", and **product_definition_shape** with **property_definition**. Make last sentence of NOTE 1 an example.

Combine notes 1 and 2, and add reference to Part 41 for into the note with the references to Parts 42 and 43.

Delete existing note 3 because it is redundant information.

ISSUE NUMBER: FRA 44-63
AUTHOR: HUAU Pascal
CLAUSE: 4.3.8 PAGE: 18
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The last paragraph of this page does not define the entity but only provides further information about its usage. Therefore, according to ISO directives part 3 (6.5.1), it should become an informative Note.

PROPOSED SOLUTION:
See above.

RESOLUTION:

Accept -

OBE - see FRA 44-14

ISSUE NUMBER: FRA 44-64
AUTHOR: HUAU Pascal
CLAUSE: 4.3.9 PAGE: 20
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The second and third sentences of the definition do not define the entity but only provide further information about its usage. Therefore, according to ISO directives part 3 (6.5.1), it should become an informative Note.

PROPOSED SOLUTION:
See above.

RESOLUTION:

Make the second and third sentences notes. Rewrite them as follows:

NOTE - A promissory_usage_occurrence is used when the product structure is not completely defined. In such a situation, it is still possible to relate an assembly to a constituent to capture the intent that the constituent will be used in that assembly.

ISSUE NUMBER: FRA 44-65
AUTHOR: HUAU Pascal
CLAUSE: 4.3.9 PAGE: 20
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The first sentence of the definition is not consistent with what is specified on page 15, and corresponds more to a description of an intended usage of the entity than to a specification of the information actually provided by the entity. The expression "specifies the intention to …" is not specific of this entity and could also be valid for the other subtypes of assembly_component_usage.

PROPOSED SOLUTION:
Replace the sentence by:
A **promissory_usage_occurrence** is the specification of a relationship between two **product_definition** instances. These instances shall represent two distinct nodes in the same branch of an assembly tree. The relationship is established regardless the number of levels between the two nodes in the branch."

RESOLUTION:

Accept -

Modify the definition as follows:

A **promissory_usage_occurrence** is an assembly_component_usage in whch the related_product_definition is in the assembly tree of the relating_product_definition regardless of the number of intermediate levels between them.

Move the second and third sentence to a note. (see FRA 44-64)

Remove the attribute redefiintions.

ISSUE NUMBER: FRA 44-66
AUTHOR: HUAU Pascal
CLAUSE: 4.3.10   PAGE: 21
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The last paragraph of the definition does not define the entity but only provides further information about its usage. Therefore, according to ISO directives part 3 (6.5.1), it should become an informative Note.

PROPOSED SOLUTION:
See above.

RESOLUTION:

Accept -

Make it a note.

ISSUE NUMBER: FRA 44-67
AUTHOR: HUAU Pascal
CLAUSE: 5.3.1 PAGE: 24
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The second sentence of the definition does not define the entity but only provides further information about its usage. Therefore, according to ISO directives part 3 (6.5.1), it should become an informative Note.

PROPOSED SOLUTION:
See above.

RESOLUTION:

Accept -

OBE - see FR 44-23 for the entire definition

ISSUE NUMBER: FRA 44-68
AUTHOR: HUAU Pascal
CLAUSE: 5.3.5 PAGE: 26
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:

The second sentence of the definition of the attribute Condition does not define the entity but only provides further information about its usage. Therefore, according to ISO directives part 3 (6.5.1), it should become an informative Note.

PROPOSED SOLUTION:
See above.

RESOLUTION:

Accept -

OBE - see UK 44-2

ISSUE NUMBER: FRA 44-69
AUTHOR: HUAU Pascal
CLAUSE: 6.4.1 PAGE: 30
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The second, third, fifth and sixth sentences of the definition does not define the entity but only provides further information about its usage. Therefore, according to ISO directives part 3 (6.5.1), they should become informative Notes.

PROPOSED SOLUTION:
See above.

RESOLUTION:

Accept -

Second and third sentences removed by FRA-44-2, fourth sentence made a note by FRA-44-2.

|Sixth sentence made into a note by FRA-44-38, Fifth sentence will be moved into a note.

ISSUE NUMBER: FRA 44-70
AUTHOR: HUAU Pascal
CLAUSE: 4.3.3 PAGE: 12
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The text definition of the attribute Quantity is not consistent with its EXPRESS modeling (measure_with_unit).
In addition, it does not enable to take into account fluid products.

PROPOSED SOLUTION:
Replace the definition by :
" quantity : specifies the measure with unit that represnts the quantity of the product, corresponding to the relating_product_definition, that can be made with the product corresponding to the related_product_definition ".

RESOLUTION:

Accept -

OBE - see USA 44-3

ISSUE NUMBER: FRA 44-71
AUTHOR: HUAU Pascal
CLAUSE: 4.3.3 PAGE: 13
CLASSIFICATION: MINOR, TECHNICAL
DESCRIPTION:
The informal rule should be replaced by a formal one.

PROPOSED SOLUTION:
Replace IP1 by :
"
WR2 : (NOT 'NUMBER' IN TYPEOF(quantity.value_component)) XOR
(quantity.value_component >0) ;

Formal proposition :
WR2 : if the quantity of product that can be made is expressed numerically, its value shall be
greater than 0. "

Accept -

Move to a formal proposition.

ISSUE NUMBER: FRA 44-73
AUTHOR: HUAU Pascal
CLAUSE: 4.3.5 PAGE: 15
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
In the definition, the description of the meaning of the " predefined " subtypes of
assembly_component_usage is useless and redundant with the own definition of these subtypes.

PROPOSED SOLUTION:
Remove the redundant paragraphs and keep only what is specific to assembly_component_usage.

RESOLUTION:

Accept -

Remove the paragraphs that discuss the subtypes. Make each paragraph that discusses the
different subtypes as they are used in the different structures notes after the appropriate bullet item
in the list of structures.

ISSUE NUMBER: FRA 44-74
AUTHOR: HUAU Pascal
CLAUSE: 4.3.5 PAGE: 15

CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
We do not understand what does the following sentence mean :
" The quantity represents a unit of measure other than a unitless number for non-discrete constituents " .

PROPOSED SOLUTION:
Please, clarify it (possibly by rearranging the components of the sentence).

RESOLUTION:

Accept -

OBE - paragraph has been removed - see FRA 44-73

ISSUE NUMBER: FRA 44-75
AUTHOR: HUAU Pascal
CLAUSE: 4.3.5 PAGE: 16
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
At the end of the definition of the attribute reference_designator, there should be a sentence corresponding to the fact that the attribute is optional.

PROPOSED SOLUTION:
Add the following sentence: "The reference_designator need not be specified for a particular instance of assembly_component_usage".

RESOLUTION:

Accept -

Modify definition to read: "The reference_designator need not be specified." Also, the attributes description and purpose of configuration_item.

ISSUE NUMBER: FRA 44-76
AUTHOR: HUAU Pascal
CLAUSE: 4.3.5 PAGE: 16
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The definition of the attribute reference_designator does not enable to know the purpose of this attribute. At least a note should be added to clarify its meaning and its intended usage.

NB: in AP203, this attribute is used to identify the related_product_definition in the context of its usage as a component of the relating_product_definition. This usage should be presented in a note in the present clause.

PROPOSED SOLUTION:
Create appropriate notes (see above) or replace the definition of the attribute by:

"the identifier of the product (NB normal characters) associated with the **related_product_definition** in the context of its usage as a component of the product associated with the **relating_product_definition**.

NB: the second solution is preferred.

RESOLUTION:

Accept -

Larry Mckee to provide input on the definition of reference designator in the IEC standard to which he referred at the meeting. The IEC definition will be adapted to Part 44.

Rewrite the definition as follows:

A distinctive code, which serves to identify the usage of the related_product_definition as a component in the relating_product_definition in a diagram, list, chart or on a physical piece of equipment.

ISSUE NUMBER: FRA 44-77
AUTHOR: Pascal HUAU
CLAUSE: 6.4.3 PAGE: 32
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
If an instance of the entity is also an instance of serial_numbered_effectivity or of lot_effectivity, it is not clear which product the serial number or lot number is related to: to the product identified as usage.related_product_definition or to the product identified as usage.relating_product_definition or the product identified as configuration.design?

PROPOSED SOLUTION:
Precise the definition for the mentioned cases or add the following sentence:
"The annotated EXPRESS schemata that use or specialize this entity, and allow that an instance of this entity be also an instance of serial_numbered_effectivity or of lot_effectivity, shall specify to which product, among the products identified through related_product_definition, relating_product_definition and configuration.design, the serial number or lot number is related."

RESOLUTION:

Accept -

OBE - see FRA 44-56

ISSUE NUMBER: FRA 44-78
AUTHOR: Pascal HUAU
CLAUSE: 6.4.3 PAGE: 33
CLASSIFICATION: MAJOR, TECHNICAL
DESCRIPTION:
The entity configuration_effectivity refers to a configuration_design.

However, when dealing with the description of the BOM of actually manufactured objects, it may occur that the configuration_design is not available because either the configuration_item referred to as configuration_design.configuration does not exist or the configuration_design_item referred to as configuration_design.design does not exist.

PROPOSED SOLUTION:
Change the attribute configuration_effectivity.configuration in making it refer to a SELECT type containing:
- Configuration_design, and,
- Configuration_item, and
- Configuration_design_item.

Note: an alternate possibility could consist in creating two subtypes of product_definition_effectivity, similar to configuration_effectivity but where the attribute configuration would refer respectively to configuration_item or configuration_design_item.

RESOLUTION:

Reject - unpersuasive - the general case will cover the extension. The configuration_effectivity entity is very specific and should be obsoleted in the future, so it should only be used in the specific case and the general solution used in all others.

ISSUE NUMBER: FRA 44-79
AUTHOR: Pascal HUAU
CLAUSE: 6.4.1 PAGE: 30
CLASSIFICATION: MAJOR, EDITORIAL
DESCRIPTION:
The first sentence of the definition is far from being clear: what is a unit for design or for production management?

PROPOSED SOLUTION:
Replace the sentence by:
"A Configuration_item is the identification, in the context of the item_concept, of one kind of products that may be delivered.

EXAMPLE - "Light Mac" might be one of the products, in the hamburger family of a famous chain of fast food restaurants, that could be designed and delivered.
"
RESOLUTION:

Accept -

OBE - see FRA 44-2

ISSUE NUMBER: FRA 44-80
AUTHOR: Pascal HUAU

Let's consider the following case:

A table is the assembly of a plate and of four legs.

Each leg is made of a rod and a cap

- let be DT, the product_definition, providing the definition of the table
- let be DL, the product_definition, providing the definition of the leg
- let be DC, the product_definition, providing the definition of the cap
- let be DR, the product_definition, providing the definition of the rod
- let be LT1, LT2, LT3 and LT4, the identification of the four occurrences of the leg in the table
- let be RT1, RT2, RT3 and RT4, the identification of the occurrences of the rod in the four occurrences of the leg in the table
- let be CT1, CT2, CT3, CT4, the identification of the occurrences of the cap of the four occurrences of the leg in the table

Let's now try to create a specified_higher_usage_occurrence between the table and one of the caps (C1), in the (product definition) context "Structural Design".

Specified_higher_usage implies assigning five main attributes:

- specified_higher_usage_occurrence\assembly_component_usage.relating_product _definition
- specified_higher_usage_occurrence\item_definition_instance_relationship.related_ product_definition
- specified_higher_usage_occurrence\assembly_component_usage.reference_designator
- specified_higher_usage_occurrence.upper_usage (shall refer to an assembly_component_usage)
- specified_higher_usage_occurrence.next_usage (shall refer to a next_assembly_usage_occurrence)

Rule WR2 of specified_higher_usage_occurrence imposes that:

- relating_product_definition= upper_usage.relating_product_definition

Rule WR3 of specified_higher_usage_occurrence imposes that:

- related_product_definition= next_usage.related_product_definition

Rule WR4 of specified_higher_usage_occurrence imposes that:

- next_usage.relating_product_definition= upper_usage.related_product_definition

Note: as there are two levels in the assembly, specified_higher_usage_occurrence.upper_usage shall refer to a next_higher_usage_occurrence.

Let's first check which instances we need in order to deal with the example.

For a leg, there are two breakdowns, depending on whether we consider the definition of the leg or an occurrence of the leg in the table:

- The first one is used to describe the leg as the root of an assembly tree (i.e. a leg contains an occurrence CL1 of cap and an occurrence RL1 of rod);
- The second one is used to describe occurrences of the leg in a higher assembly (e.g. the table). Then, the occurrence LT1 of leg contains the occurrence CT1 of cap and the occurrence RT1 of rod.

Note: CL1 differs from CT1 (and from other CTi) because, in the context of the table, an occurrence of the cap may be assigned different properties or administrative data (approval, effectivity, …) than the occurrence of the cap in the context of the "definition" of the leg.

So, in our example, we consider in fact the following "objects":
- DC, CL1, CT1 (+ other CTi)
- DR, RL1, RT1 (+ other RTi)
- DL, LT1 (+ other LTi)
- DT

1) <u>Instanciation method where an occurrence of a component is identified through assembly_component_usage.reference_designator</u>
The first solution possible could be :
- relating_product_definition= upper_usage.relating_product_definition= DT
- next_usage.related_product_definition= related_product_definition= DC
- upper_usage.related_product_definition= next_usage.relating_product_definition= DL
- next_usage\assembly_component_usage.reference_designator= 'CL1'
- upper_usage\assembly_component_usage.reference_designator= 'LT1'
- specified_higher_usage\assembly_component_usage.reference_designator = 'CT1'

But, in the case where a similar breakdown, using specified_higher_usage_occurrence, is made for the context "Manufacturing", if we want to relate the two instances of shuo used to describe CT1 in each context (e.g. to state that modifications of the first one impact the second one), there is a problem because no resource enables to relate these instances.

2) <u>Instanciation method where an occurrence of component is dealt with as a special instance of product_definition</u>
The principle is that we distinguish between the definition of a product and one of its occurrences in an assembly. In such a case, let's consider that an occurrence of a product can be represented as another instance of product_definition.
Therefore, let be:
- ODCT1 the instance associated with the cap CT1
- ODLT1 the instance associated with the leg LT1

Therefore, we could have:
- specified_higher_usage.relating_product_definition= specified_higher_usage.upper_usage.relating_product_definition= DT
- specified_higher_usage.related_product_definition= specified_higher_usage.next_usage.related_product_definition = ODCT1
- specified_higher_usage.related_product_definition.id= 'CT1'

- specified_higher_usage.next_usage.relating_product_definition=
  specified_higher_usage.upper_usage.related_product_definition = ODLT1
- specified_higher_usage.next_usage.relating_product_definition.id= 'LT1'

Then, the fact that an occurrence of component (e.g. ODL) is based on a given definition (e.g. DL) could be dealt with an appropriate instance of product_definition_relationship (or of a subtype of).

However, the problem with this solution is that:
- it requires more instances that the first method;
- it is not clear if the instance ODCT1 corresponding to CT1 should be related to DC or to an instance corresponding to CL1 (i.e. occurrence of the cap in the context of the definition of the leg) or to both.

PROPOSED SOLUTION:
The first thing to do is to choose the principle between Instanciation Methods 1 and 2 that shall be used to identify occurrences of components in an assembly.
Then, we propose a solution to the problem identified for each method.

Solution for method 1:
A paragraph should be added in part 44, stating that:
"The description, in a given product definition context, of all the occurrences of a component in one or more assemblies shall be dealt with instances of assembly_component_usage referring to the same instance of product_definition as related_product_definition. When needed, the identification of the occurrence of the component in the assembly referred to as relating_product_definition shall be done, using the attribute assembly_component_usage.reference_designator. "

Then, create in part 44, an entity enabling to relate two instances of shuo or nauo or puo such that the relating_product_definition (resp. related_product_definition) of the first one refers to the same pdf as the relating_product_definition (resp. related_product_definition) of the second one.

Definition:
A **component_occurrences_relationship** is the specification of a relationship between two occurrences of a particular component in one or more assemblies.

The meaning of the relationship and its possible consequences with respect to the related instances of **assembly_component_usage** shall be defined in the annotated EXPRESS schemata that use or specialize this entity.

EXAMPLE - the value 'same occurrences in different context' may be used for name to characterize the fact that the relating_occurrence and the related_occurrence identify the same occurrence of component in the same assembly but in different product definition contexts.

EXPRESS specification:
```
        ENTITY component_occurrences_relationship;
                relating_occurrence: assembly_component_usage;
                related_occurrence: assembly_component_usage;
                relation_type: label;            -- specifies the meaning of the relationship
                description: text;               -- additional comment
```

WHERE
 WR1: TYPEOF(relating_occurrence) = TYPEOF(related_occurrence);
 WR2: relating_occurrence :<>: related_occurrence;
 WR3: relating_occurrence.relating_product_definition.formation :=:
 related_occurrence.relating_product_definition.formation;
 WR4: relating_occurrence.related_product_definition.formation :=:
 related_occurrence.related_product_definition.formation;
END_ENTITY;

<u>Solution for method 2:</u>
- If the addition proposed in solution 1 is accepted, we propose to make the 2nd method <u>illicit</u>, in order to simplify the work requested to the implementors.
  Therefore, a paragraph should be added in part 44, stating that:
  "The description, in a given product definition context, of all the occurrences of a component in one or more assemblies shall dealt with instances of **assembly_component_usage** referring to the same instance of **product_definition** as related_product_definition. The identification of the occurrence of the component in the assembly referred to as relating_product_definition shall be done, using the attribute assembly_component_usage.reference_designator. "

- If the first solution is not accepted, then creating as many instances of an appropriate subtype of product_definition (i.e. product_definition + special rules) as there are occurrences of the component is needed.
  Therefore, in this case, such a subtype of product_definition should be created in Part 41 or Part 44:

<u>Definition</u>:
A **product_occurrence** is a kind of **product_definition** that identifies, in a given definition context, the occurrence of a product in an assembly.

<u>EXPRESS specification</u>
ENTITY product_occurrence
SUBTYPE OF (product_definition);
WHERE
WR1: SIZEOF(USEDIN(SELF,
'NEXT_ASSEMBLY_USAGE_OCCURRENCE.RELATED_PRODUCT_DEFINITION') +
SIZEOF(SELF,
'PROMISSORY_USAGE_OCCURRENCE.RELATED_PRODUCT_DEFINITION') = 1;

WR2:
SIZEOF(USEDIN('SPECIFIED_HIGHER_USAGE_OCCURRENCE.RELATED_PRODUC
T_DEFINITION")) +
SIZEOF(USEDIN('SPECIFIED_HIGHER_USAGE_OCCURRENCE.RELATING_PRODU
CT_DEFINITION"))=0;
END_ENTITY;

<u>Formal propositions</u>:

WR1: a product_occurrence shall be referred to, as related_product_definition, by either one next_assembly_usage_occurrence or one promissory_usage_occurrence;

WR2: a product_occurrence shall not be referred to by any specified_higher_usage_occurrence, either as related_product_definition or as relating_product_definition;

with the additional usage rules:
- Such an instance shall have as id the identifier of the occurrence of the component in the instance of next_assembly_usage_occurrence or promissory_usage_occurrence where it plays the role of related_product_definition.
- Relationships between occurrences of the same component or between an occurrence and the definition of the component shall be dealt with instances of product_definition_relationship.

Resolution:

1. specify when to use which method (this is for different parallel product structures for a given occurrance:
   Incorporate a description into the technical discussions based on Pascal's write-ups of the proposed methods (3) . First - all definitions, occurrence information given by pdr.id, second - all occurances and the occurrances are all related, third - hybrid : definitions use occurrances. Make explicit what can and cannot be done with each method.

2. To enable the use of specified_higher_usage_occurrence in method 3, we need to modify WR4 to say that either the present constraint holds or the upper_usage. relating_product_definition is related to the next_usage.relating_product_definition.

109, 110
130, 131
160, 161
31, 33
Sentence/abstract/keywords:
Generic NAME assignment
Issue Description:
This issue is an exact duplicate of issue GER-41-6 against ISO/CD
10303-41:1997.
The new edition of ISO 10303-41 extends the attribute set of the following
entities by an attribute name:
· product_definition
· product_definition_substitute
· property_definition_representation
· context_dependent_shape_representation
· action_request_solution
· person_and_organization
· effectivity
· derived_unit
The new edition of ISO 10303-44 extends the attribute set of the following
entities by an attribute name:
· configuration_design
This is done consistently by the addition of the new entity xxxx_name.
This approach raises the entity count and by doing that increases the
implementation complexity unnecessarily. The structural equivalence between
all these cases should be used to simplify implementation as described
below. Doing this would also simplify this kind of extension in the future.
Proposed Solutions/Remarks:
The following entities should be deleted from ISO 10303-41:
· product_definition_name
· product_definition_substitue_name
· property_definition_representation_name
· context_dependent_shape_representation_name
· action_request_solution_name
· person_and_organization_name
· effectivity_name
· derived_unit_name
The following entities should be deleted from ISO 10303-44:
· configuration_design_name
The following piece of code should be introduced in an appropriate schema
in ISO 10303-41:

```
 TYPE
   name_assignment_select = SELECT (product_definition,
                     product_definition_substitute,
                     property_definition_representation,
                     context_dependent_shape_representation,
                     action_request_solution,
                     person_and_organization,
```

```
                    effectivity,
                    derived_unit,
                    configuration_design);
  END_TYPE,

ENTITY name_assignment;
  named_object : name_assignment_select;
  name        : label;
END_ENTITY;

FUNCTION get_name (obj : name_assignment_select)
            : SET [0:?] OF name_assignment;
  RETURN (bag_to_set (
    USEDIN (obj, ëthis_schema.NAME_ASSIGNMENT.NAMED_OBJECTí)));
END_FUNCTION;
```

In addition in each of the entities in the SELECT list of name_assignment,
the inverse attribute name should be replaced by the derived attribute
name, as exemplified below for the entity action_request_solution:

```
ENTITY action_request_solution;
  ...
DERIVE
  name : SET [0:1] OF name_assignment := get_name (SELF);
  ...
END_ENTITY;
```

In addition, the necessary REFERENCE statements need to be included into
the EXPRESS code to make this version work according to the visibility
rules of EXPRESS.
This issue has been classified as major technical, because the solution
proposed above represents a major technical change of the document. This
classification however does not mean, that the issue is an obstacle for
accepting the document as CD.

RESOLUTION:

Incorporate the following for name:

1. Create interface to the attribute addition schema from Part 41 (reference entire schema)
2. Add a derived attribute and WHERE rule to configuration_design as follows (note - name of
    function, entity and attribute are still pending their definition in Part 41 - we need to coordinate
    with Linas and Julian):

```
ENTITY configuration_design;
.
.
.
DERIVE
  name : label := get_name_value (SELF);
```

```
WHERE
  WR1: SIZEOF (USEDIN (SELF,
      'XXX_SCHEMA.NAME_ATTRIBUTE.NAMED_ITEM')) <= 1;
END_ENTITY;
```


Issue Reference No.: GER-44-2

Originator: Bernd G. Wenzel   Date: 1998-01-17

Country No.:   Issue status:

Urgency: major   Type: technical

Related Document: ISO/CD 10303-41:1997

ISO/CD 10303-44:1997 Related Issues: GER-41-6, GER-41-7

GER-44-1

Clause: P41: 5.4.8

P41: 5.4.14

P41: 7.3.2

P41: 7.3.6

P41: 10.4.9

P41: 15.4.11

P41: 18.3.1

P41: 21.4.19

P44: 6.4.2   Page: 18

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Sentence/abstract/keywords:

Avoid unnecessary constraints on the number of names in resource models.

Issue Description:

This issue is an exact duplicate of issue GER-41-7 against ISO/CD
10303-41:1997.

Although the structure chosen to add names to entities, which didnít have
that attribute before, is sufficient to support more than one, the inverse
attribute name is restricted to a maximum of one name in all entities using
this mechanism. Such constraints should be left to APs.

Proposed Solutions/Remarks:

In the declaration of all entities using this mechanism, the upper bound in
the inverse set of xxxx_name should be raised from Ñ1ì to Ñ?ì. Should issue
GER-41-6/GER-44-1 be accepted, the same modification should be done to the
derived set of name_assignments.

This issue has been classified as major technical, because the solution
proposed above represents a major technical change of the document. This
classification however does not mean, that the issue is an obstacle for
accepting the document as CD.

RESOLUTION:

Deferred to next edition

Issue Reference No.: GER-44-3
Originator: Bernd G. Wenzel   Date: 1998-01-17
Country No.:   Issue status:
Urgency: major   Type: technical
Related Document: ISO/CD 10303-41:1997
ISO/CD 10303-43:1997
ISO/CD 10303-44:1997 Related Issues: GER-41-8, GER-41-9
GER-43-3, GER-43-4
GER-44-4
Clause: P41: 4.3.1, 4.3.2
P41: 7.3.2, 7.3.4
P41: 7.3.6, 7.3.8
P41: 10.4.9, 10.4.11
P41: 12.3.7, 12.3.8
P41: 15.4.5, 15.4.6
P41: 15.4.8, 15.4.9
P41: 15.4.11, 15.4.13
P41: 15.4.14, 15.4.15
P41: 16.4.2, 16.4.3
P41: 16.4.9, 16.4.10
P41: 16.4.12, 16.4.13
P41: 18.3.1, 18.3.3
P41: 19.4.1, 19.4.2
P43: 4.4.1, 4.4.19
P44: 6.4.2, 6.4.5   Page: 5, 6
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82, 84
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107, 108
109, 110
110, 111
118, 119
122, 123
123, 124
130, 132
135, 136
10, 24
31, 34
Sentence/abstract/keywords:
Generic DESCRIPTION assignment
Issue Description:
This issue is an exact duplicate of issues GER-41-8 against ISO/CD
10303-41:1997 and GER-43-3 against ISO/CD†10303-43:1997.
The new edition of ISO 10303-41 extends the attribute set of the following

entities by an attribute description:

· application_context
· property_definition_representation
· context_dependent_shape_representation
· action_request_solution
· approval_role
· person_role
· organization_role
· person_and_organization
· person_and_organization_role
· date_role
· time_role
· date_time_role
· effectivity
· external_source

The new edition of ISO 10303-43 extends the attribute set of the following entities by an attribute description:

· representation

The new edition of ISO 10303-44 extends the attribute set of the following entities by an attribute description:

· configuration_design

This is done consistently by the addition of the new entity xxxx_description. This approach raises the entity count and by doing that increases the implementation complexity unnecessarily. The structural equivalence between all these cases should be used to simplify implementation as described below. Doing this would also simplify this kind of extension in the future.

Proposed Solutions/Remarks:

The following entities should be deleted from ISO 10303-41:

· application_context_description
· property_definition_representation_description
· context_dependent_shape_representation_description
· action_request_solution_description
· approval_role_description
· person_role_description
· organization_role_description
· person_and_organization_description
· person_and_organization_role_description
· date_role_description
· time_role_description
· date_time_role_description
· effectivity_description
· external_source_description

The following entities should be deleted from ISO 10303-43:

· representation_description

The following entities should be deleted from ISO 10303-44:

· configuration_design_description

The following piece of code should be introduced in an appropriate schema in ISO 10303-41:

```
TYPE
  description_assignment_select = SELECT (application_context,
  description_assignment_select = SELECT (application_context,
```

property_definition_representation,

property_definition_representation,

context_dependent_shape_representation,
```
                              action_request_solution,
                              approval_role,
                              person_role,
                              organization_role,
                              person_and_organization,
                              person_and_organization_role,
                              date_role,
                              time_role,
                              date_time_role,
                              effectivity,
                              external_source,
                              representation,
                              configuration_design);
  END_TYPE,

  ENTITY description_assignment;
    described_object : name_assignment_select;
    name            : text;
  END_ENTITY;

  FUNCTION get_description (obj : description_assignment_select)
                  : SET [0:?] OF description_assignment;
    RETURN (bag_to_set (
      USEDIN (obj, ëthis_schema.DESCRIPTION_ASSIGNMENT.DESCRIBED_OBJECTí)));
  END_FUNCTION;
```

In addition in each of the entities in the SELECT list of
description_assignment, the inverse attribute description should be
replaced by the derived attribute description, as exemplified below for the
entity action_request_solution:

```
  ENTITY action_request_solution;
   ...
  DERIVE
    description : SET [0:1] OF description_assignment := get_description
(SELF);
   ...
  END_ENTITY;
```

In addition, the necessary REFERENCE statements need to be included into

the EXPRESS code to make this version work according to the visibility rules of EXPRESS.
This issue has been classified as major technical, because the solution proposed above represents a major technical change of the document. This classification however does not mean, that the issue is an obstacle for accepting the document as CD.

RESOLUTION:

Incorporate the following for description:

1. Create interface to the attribute addition schema from Part 41 (reference entire schema)
2. Add a derived attribute and WHERE rule to configuration_design as follows (note - name of function, entity and attribute are still pending their definition in Part 41 - we need to coordinate with Linas and Julian):

```
ENTITY configuration_design;
.
.
.
DERIVE
  description : text := get_name_value (SELF);
WHERE
  WR1: SIZEOF (USEDIN (SELF,
       'XXX_SCHEMA.DESCRIPTION_ATTRIBUTE.DESCRIBED_ITEM')) <= 1;
END_ENTITY;
```

Issue Reference No.: GER-44-4
Originator: Bernd G. Wenzel   Date: 1998-01-17
Country No.:   Issue status:
Urgency: major   Type: technical
Related Document: ISO/CD 10303-41:1997
ISO/CD 10303-43:1997
ISO/CD 10303-44:1997 Related Issues: GER-41-8, GER-41-9
GER-43-3, GER-43-4
GER-44-3
Clause: P41: 4.3.1
P41: 7.3.2
P41: 7.3.6
P41: 10.4.9
P41: 12.3.7
P41: 15.4.5
P41: 15.4.8
P41: 15.4.11
P41: 15.4.14
P41: 16.4.3
P41: 16.4.9
P41: 16.4.12
P41: 18.3.1

P41: 19.4.1
P43: 4.4.1
P44: 6.4.2   Page: 5
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Sentence/abstract/keywords:
Avoid unnecessary constraints on the number of descriptions in resource models.
Issue Description:
This issue is an exact duplicate of issues GER-41-9 against ISO/CD 10303-41:1997 and GER-43-4 against ISO/CD†10303-43:1997.
Although the structure chosen to add descriptions to entities, which didnít have that attribute before, is sufficient to support more than one, the inverse attribute description is restricted to a maximum of one description in all entities using this mechanism. Such constraints should be left to APs.
Proposed Solutions/Remarks:
In the declaration of all entities using this mechanism, the upper bound in the inverse set of xxxx_description should be raised from Ñ1ì to Ñ?ì.
Should issue GER-41-8/GER-43-3/GER-44-3 be accepted, the same modification should be done to the derived set of description_assignments.
This issue has been classified as major technical, because the solution proposed above represents a major technical change of the document. This classification however does not mean, that the issue is an obstacle for accepting the document as CD.

RESOLUTION:

Deferred to next edition

Issue Reference No.: GER-44-5
Originator: Bernd G. Wenzel   Date: 1998-01-17
Country No.:   Issue status:
Urgency: major   Type: technical
Related Document: ISO/CD 10303-41:1997
ISO/CD 10303-44:1997 Related Issues: GER-41-3, GER-41-5

Clause: P41: 5.4.11, 5.4.12
P41: 8.4.41, 8.4.42
P41: 8.4.43, 8.4.44
P41: 8.4.45, 8.4.46
P41: 8.4.47, 8.4.48
P41: 8.4.49, 8.4.50
P44: 6.4.7, 6.4.8   Page: 20
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66, 67
67, 68
68, 69
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Sentence/abstract/keywords:
Consistent handling of roles
Issue Description:
This issue is an exact duplicate of issue GER-41-5 against ISO/CD
10303-41:1997.
In issue GER-41-3, we try to harmonise the handling of roles in the
modified parts of ISO 10303-41. One of the means in accomplishing this, is
the introduction of the entity object_role. This entity should be used in
the following entities of ISO†10303-41 as well, as it also simplifies
extensions of this kind in the future:
· product_definition_context_association
· effectivity_context_assignment
· document_usage_constraint_assignment
· action_method_assignment
· multi_language_attribute_assignment
· identification_assignment
The same is true for the following entities in ISO 10303-44:
· configuration_item_context_association
Proposed Solutions/Remarks:
The following modifications should be made to ISO 10303-41:
· Remove the entity product_definition_context_role.
· Replace the type of the attribute role in the entity
product_definition_context_assignment by object_role.
· Remove the entity effectivity_context_role.
· Replace the type of the attribute role in the entity
effectivity_context_assignment by object_role.
· Remove the entity document_usage_role.
· Replace the type of the attribute role in the entity
document_usage_assignment by object_role.
· Remove the entity action_method_role.
· Replace the type of the attribute role in the entity
action_method_assignment by object_role.
· Remove the entity language_role.
· Replace the type of the attribute role in the entity
multi_language_attribute_assignment by object_role.
· Remove the entity identification_role.

· Replace the type of the attribute role in the entity
identification_assignment by object_role.
The following modifications should be made to ISO 10303-44:
· Remove the entity configuration_item_context_role.
· Replace the type of the attribute role in the entity configuration
item_context_association by object_role.
This issue has been classified as major technical, because the solution
proposed above represents a major technical change of the document. This
classification however does not mean, that the issue is an obstacle for
accepting the document as CD.

RESOLUTION:

Reject - OBE - entites have been removed from the Part

Issue Reference No.: GER-44-6
Originator: Bernd G. Wenzel   Date: 1998-01-17
Country No.:   Issue status:
Urgency: major   Type: technical
Related Document: ISO/CD 10303-41:1997
ISO/CD 10303-43:1997
ISO/CD 10303-44:1997 Related Issues: GER-41-13
GER-43-5

Clause: All EXPRESS models   Page:
Sentence/abstract/keywords:
Mandatory attributes considered harmful in integrated resources.
Issue Description:
This issue is an exact duplicate of issues GER-41-13 against ISO/CD
10303-41:1997 and GER-43-5 against ISO/CD†10303-43:1997.
The integrated resources of STEP contain very many mandatory attributes and
only a very limited number of optional ones. This creates problems
occasionally during interpretation, as this means in principle, that the
users of an AP need to provide information in an exchange file or database,
for which they have no industry or application requirement. To avoid this
situation, it is current interpretation practice to accept the null value
(EXPRESS Ñ?ì) as a legal value for mandatory attributes. This is
inconsistent with ISO 10303-11, which defines, that the null value is a
legal value for optional attributes but not for mandatory ones.
This inconsistency is a problem for all STEP implementers, as it makes the
usage of off-the-shelf EXPRESS based tools impossible for the
implementation of STEP application protocols.
Proposed Solutions/Remarks:
All EXPRESS models in the integrated resources of STEP need to be carefully
reworked. We need to check, whether any mandatory attribute is required to
preserve the structural and informational integrity of the described
information or not. The preservation of informational completeness needs to
be left to the application protocols, as it can be defined only within the
context of an application domain or usage scenario.

This issue deals with a problem of the integrated resources as a whole. It is not local to ISO 10303-44, nor has it been introduced with the new revision. However the required modifications are fully upward compatible. Therefore it makes sense to introduce those changes gradually whenever a part of the STEP resources is out for revision.

This issue has been classified as major technical, because the solution proposed above represents a major technical change of the document. This classification however does not mean, that the issue is an obstacle for accepting the document as CD.

RESOLUTION:

Accept -

Incorporate workshop consensus to make all "description" attributes optional. This includes the mistakenly named "definition" attributes of alternate_product_relationship and assembly_component_usage_substitute..

Issue Reference No.: GER-44-7
Author: AP214 Team, DiK (ap214@dik.tu-darmstadt.de)
Clause: 5.3
Classification: Major Technical
Issue Description:
In AP214 it is a requirement to have a direct link between product_concept and product_definition in order to avoid the instantiation of 'dummy' entities such as configuration_item whose semantics is completely different from the semantics of the requested relationship.
Proposed Solutions/Remarks:
Add an association between those two entities named "concept_definition_association'.

ENTITY product_concept_definition_association;
name: label;
description: OPTIONAL text;
associated_concept: product_concept;
associated_definition: product_definition;
END_ENTITY;

RESOLUTION:

Unpersuasive - the definition of configuration_item is a unit for configuration management and needs to be used for the relationship to the product structure.

ISSUE NUMBER: NL 044-001
AUTHOR: Hans Teijgeler
CLAUSE: General
Page Number:
CLASSIFICATION: Major Technical

DESCRIPTION:

This CD proposal is unsatisfactory from a technical standpoint in that it does not follow the rules which have been established by SC4 in previous documents and practice for the developement of integrated resource data models. The extentions of the integrated resources were developed with a top priority of maintaining upward compatability in the strictest sense with existing ISO 10303 products. While the goal of upward compatability is an honorable one, it is not pragmatic at this time.

The 1994 release of Part 44 was developed to support the requirements defined in two ISO 10303 Application Protocols, Part 201 and Part 203. Although they do support the requirements laid out in those two APs, many more requirements (mostly for STRING type attributes) have been identified in approximately 18 new Application Protocols that are in various stages of development within SC4. In fact, requirements that were identified in parallel with the development of those two APs during the existence of the Intial Release tiger team were discluded from the initial release due to the schedule crunch at the time. Those same requirements upon being resubmitted in one way or another, mostly through SEDS reports are being included incorrectly, or not at all in the name of upward compatability. These APs are being forced to use inefficient, incorrect and unstable Integrated Resource constructs so that implementations of two APs will not be required to make minor changes to their software.

This situation is inadequate for the needs of the upcoming APs.

PROPOSED SOLUTION:

SC4 should approach this CD release of the Integrated Resources as an opportunity to fix errors that have been identified by new types of requirements and add the capability to support any new requirements (sufficient generic attribution) while remaining consistent with the architecture and methods of STEP.

RESOLUTION:

Defer to next edition - current edition shall be upward compatable with previous edition by WG12 consensus.

_____
ISSUE NUMBER: NL 044-002
AUTHOR: Hans Teijgeler
CLAUSE: 6.4.2
Page Number: 32,33
CLASSIFICATION: Major Technical

DESCRIPTION:
The description attribute of the configuration_design is modelled incorrectly as an inverse. The description attribute holds textual information that describes an instance of the entity and is correctly modelled using an attribute of type TEXT.

PROPOSED SOLUTION:

Add a description attribute of type text to the configuration_design entity and remove the INVERSE attribute.

RESOLUTION:

Defer to next edition - current edition shall be upward compatable with previous edition by WG12 consensus.

_____

ISSUE NUMBER: NL 044-003
AUTHOR: Hans Teijgeler
CLAUSE: 6.4.5
Page Number: 35
CLASSIFICATION: Major Technical

DESCRIPTION:
The configuration_design_description entity does not model a concept and is inappropriate for Part 44. It is merely a structural "work around" and is unacceptable as a Part 44 entity. The entities in Part 44 shall represent concepts used within the context of product data. This entity is not representative of a real world concept, but a characteristic of another entity.

PROPOSED SOLUTION:
Model the characteristic correctly as an attribute of the configuration_design entity.

RESOLUTION:

Defer to next edition - current edition shall be upward compatable with previous edition by WG12 consensus.

_____

ISSUE NUMBER: NL 044-004
AUTHOR: Hans Teijgeler
CLAUSE: 6.4.2
Page Number: 32,33
CLASSIFICATION: Major Technical

DESCRIPTION:
The name attribute of the configuration_design is modelled incorrectly as an inverse. The name attribute specifies a label by which an instance of the entity may be known and is correctly modelled using an attribute of type LABEL.

PROPOSED SOLUTION:
Add a name attribute of type label to the configuration_design entity and remove the INVERSE attribute.

RESOLUTION:

Defer to next edition - current edition shall be upward compatable with previous edition by WG12 consensus.

_____

ISSUE NUMBER: NL 044-005
AUTHOR: Hans Teijgeler
CLAUSE: 6.4.4

Page Number: 34, 35
CLASSIFICATION: Major Technical

DESCRIPTION:
The configuration_design_name entity does not model a concept and is inappropriate for Part 44. It is merely a structural "work around" and is unacceptable as a Part 44 entity. The entities in Part 44 shall represent concepts used within the context of product data. This entity is not representative of a real world concept, but a characteristic of another entity.

PROPOSED SOLUTION:
Model the characteristic correctly as an attribute of the configuration_design entity.

RESOLUTION:

Defer to next edition - current edition shall be upward compatable with previous edition by WG12 consensus.

Issue Reference No.: SWE-44-1

Originator:	KTH, Woxén Centre, Computer Sys.-	Date:	1998-01-27
	tem for Design and Manuf.		
Country No.:		Issue status:	
Urgency:	major	Type:	technical
Related Document:	ISO/CD 10303-41:1997	Related Issues:	SWE-41-1, SWE-43-1
	ISO/CD 10303-43:1997		SWE-44-1
	ISO/CD 10303-44:1997		
Clause:		Page:	

Sentence/abstract/keywords:

Improving the implementation by generic assignments of id, name, role and description.

Issue Description:

The number of entities has grown significantly because new entities have been introduced in order to assign attributes to already existing entities. The common experience at both Scania and Volvo tells that the effort required for the development, maintenance and control of model based software grows linearly with the number of entities. Therefore the entity count should be kept to a minimum.

This is a generic issue applicable to parts 41, 43, 44.

Proposed Solutions/Remarks:

For each of the attributes id, name, role and description there should be a single generic assignment entity which can connect the attribute to each entity that requires it. This can be done pointing at a SELECT type.

RESOLUTION:

Accept -

OBE - see GER 44-1, GER 44-3

Issue Reference No.: SWE-44-2

Originator:	KTH, Woxén Centre, Computer Sys.- tem for Design and Manuf.	**Date:**	1998-01-27
Country No.:		**Issue status:**	
Urgency:	major	**Type:**	technical
Related Document:	ISO/CD 10303-41:1997	**Related Issues:**	SWE-41-2, SWE-43-2
	ISO/CD 10303-43:1997		SWE-44-2
	ISO/CD 10303-44:1997		
Clause:		**Page:**	

Sentence/abstract/keywords:

Enabling the use of EXPRESS based tools for implementation purposes.

Issue Description:

It is current practice to have "null" values in mandatory attributes in exchange files. This is inconsistent with the definition of mandatory attributes in ISO 10303-11. Therefore the implementation of STEP using standard EXPRESS based tools requires changes to the original schemas by each single implementor. This will inevitably introduce inconsistencies between different implementations.

This is a generic issue applicable to all parts of the integrated resources.

In addition the use of mandatory attributes is over constraining the integrated resources with regard to data sharing and data integration applications.

Proposed Solutions/Remarks:

There should be a check of all mandatory attributes in the integrated resources. The check should reveal whether or not it is appropriate to have an attribute mandatory in all application scenarios. This will not affect the upward compatibility for these parts.

RESOLUTION:

Accept -

OBE - see GER 44-6

Issue: UK044-001
Author: Nigel Shaw
Clause: whole document
Classification: Major Technical

Description:

The newly introduced entities are all classic examples of the kind of entity which is meaningless until interpreted. Their meaning will only be established by usage. It is not fully defined in the part.

Issue Resolution

Accept - definitions will be improved on a case by case basis - examples are needed to provide some kind of clarity on the semantics of the entity.

Issue: UK044-002
Author: Nigel Shaw
Clause: 5.3.5
Classification: Minor Technical

Description:

The definition of conditional_concept_feature refers to "one or more" product_concept_feature entities and then references a relationship entity which by definition introduces 2 such entities.

RESOLUTION:

Accept:

Modify the definition as follows:

A conditional_concept_feature is a product_concept_feture that is the combination of two product_concept_features constrained by an operator.

NOTE - Complex combinations of product_concept_features may be constructed using conditional_concept_features as operands of a concept_feature_relationship_with_condition.

Remove the plural from the definition of the the attribute condition.   Remove second sentence of the definition as well.

Issue: UK044-003
Author: Nigel Shaw
Clause: 5.3.7
Classification: Minor Technical

Description:

The definition of concept_feature_relationship_with_condition refers to conditional_operator as if it is an entity or type. In fact is turns out to be a label. This suggests that no such relationships will ever share the same condition. If I understand the objective of this and related entities correctly, I consider such sharing to be highly likely.

Proposed resolution:

Therefore conditional_operator should be an entity.

RESOLUTION:

Accept:

Add entity concept_feature_operator:

Entity definition:

The concept_feature_operator defines an operation that may be used to constrain the relationship between two product_concept_features.

EXAMPLE - AND, NOT, OR are concept_feature_operator names.

```
ENTITY concept_feature_operator;
  name        : label;
  description : OPTIONAL text;
END_ENTITY;
```

name: The word or group of words by which the concept_feature operator is known.

   NOTE - the name designates the operation.

description: the word or group of words that characterize the concept_feature_operator. The description need not be specified.

Change the reference in the relationship to refer to the entity instead of a label.

Add two examples to the relationship entity that states:

EXAMPLE 1 - A condition of negation is specified by using a concept_feature_operator with a name of 'NOT' and a product_concept_feature_relationship_with_condition in which the related_concept_feature and the relating_concept_feature reference the same instance of product_concept_feature.

Juergen Mohrmann will provide an example for a simple complex condition.

Issue: UK044-004

Author: Nigel Shaw
Clause: Note 2 in 4.3.7
Classification: Editorial

Description:

An application algorithm can derive an indented parts list for a product by sequentially tracing through a structure of next_assembly_usage_occurrence instances. A similar algorithm can be used to calculate the position and orientation of each occurrence of every constituent relative to its higher- level assemblies within a BOM.

The second sentence is not true unless the additional information referred to in Note 1 of the same clause is taken into account.

RESOLUTION:

Accept:

Make a reference to what will be NOTE 2 in that pararaph as follows:

….when used in conjunction with the property information constructs defined in ISO 10303-42, ISO 10303-43 and ISO 10303-41.

Issue: UK044-005
Author: Nigel Shaw
Clause: 4.3.7
Classification: Minor Technical

Description:

In: "The next_assembly_usage_occurrence is an assembly_component_usage that specifies the relationship between a child constituent and its immediate parent assembly in a product structure. It represents the use of individual occurrences of constituents. The use of the same constituent may be represented by another distinct next_assembly_usage_occurrence instance for the purpose of assigning a position and orientation for the constituent."

Proposed resolution:

The final sentence should be amended as follows: Each specific use of the same constituent may be represented by another distinct next_assembly_usage_occurrence instance for the purpose of assigning a position and orientation for the constituent.

Furthermore the text does not really acknowledge the possibility (through ANDOR subtyping) that the NAUO may also be quantified.

RESOLUTION:

see FRA 44-62 for modification of third sentence, add a second note concerning the complex combination through AND subtyping for the specification of a quantity with reference to 4.3.6.

NOTE – The number of constituents used in the assembly may be specified by composing a complex instance of next_assembly_usage_occurrence and quantified_assembly_component_usage (see 4.3.6).

Issue: UK044-006
Author: Nigel Shaw
Clause: Clause 1
Classification: Editorial

Description:

In the out-of-scope statement it says:
the information for as-built manufacturing, manufacturing planning, and logistical structure and configurations;

This rules out the use of part 44 for several very useful cases. I suspect the intent is to say that the part does not support the additional information used in some of these cases. However I can certainly use it for an as-built BOM (or any other life-cycle phase) if I am happy to use it for that purpose.

Proposed resolution:

Therefore delete the whole statement.

RESOLUTION:

Accept -

Delete the out of scope item

Issue: UK044-007
Author: Julian Fowler
Clause: Whole document
Classification: Editorial

Description:

The document does not conform to the requirements of the ISO/IEC Directives, Part 3 (1997 edition)

Proposed resolution:

Make all necessary changes to the wording, layout and format of the document as required by Directives 3 and their interpretation by the ISO 10303/SC4 Supplementary Directives (current versions: QC N048 and QC N049)

RESOLUTION:

Accept -

Make necessary changes as described in QC N048.

Issue: UK044-008   Author: Julian Fowler
Clause: Foreword   Classification: Editorial

Description:

The list of Parts of ISO 10303 is not up to date.

Proposed resolution:

Replace the explicit list of parts by a reference (URL) to SOLIS. This can follow the pattern set for access to the EXPRESS schemas and the short names. Note: a change to the Supplementary Directives to enable this resolution is under consideration by the Quality Committee.

RESOLUTION:

Accept -

Include boilerplate when it becomes available.

Issue: UK044-009   Author: Julian Fowler
Clause: Whole document   Classification: Major Technical

Description:

Part 44 is, in many respects, not a *generic* resource -- its support for product structure and configuration management is limited to mechanical/electrical design engineering. In other areas requirements have to be satisfied through interpretation of the more generic resources in Part 41.

Proposed resolution:

WG12 should undertake a detailed study of the genericity of Part 44 and its position in the STEP integration architecture. Much of the functionality of the Part may be capable of support through appropriate application resources

(100-series parts, AICs, modules, ...)

Resolution:

Deferred to next edtion - issue cannot be addressed at this time due to upward compatability requirements.

Issue: UK044-010
Author: Julian Fowler

Clause: 4.3.1
Classification: Major Technical

Description:

Alternate_product_relationship is just one case of an association between instances of the product
entity type. There is a need for a general product_relationship entity type of which alternate_p_r
would then be an interpretation (the entity type itself is not required, as the semantics could be
specified through population constraint in an AP).

Proposed resolution:

Delete this entity type. Replace by the more general product_relationship (which should be in Part
41: this has been raised as an issue against that Part).

Resolution:

Transferred - the generic product_relationship entity would be appropriately defined in Part 41, the
entity is not being deleted due to upward compatability considerations.

Issue: UK044-011
Author: Julian Fowler
Clause: 4
Classification: Major Technical

Description:

Product_definition_usage and its subtypes are not required: they do not extend the semantics of the
product_definition_relationship in Part 41. Rather, they refine the latter's semantics: within the
STEP methodology, this should be done through interpretation. The "attributes" of some of the
p_d_u subtypes should, in fact, be modelled through representation/representation_item and
associated with usages of product_definition_relationship and product_definition.

Proposed resolution:

Delete product_definition_uage. (When taken together with the proposed resolution to the previous
issue, this would in fact delete the entire product_structure_schema.). Replace this schema with
documentation of the prescribed interpretations of Part 41 product_definition_schema resources to
meet the same requirements.

Resolution -

Accept - The definition will change to:

A product_definition_usage is a product_definition_relationship that specifies a directed
association between two product_definitions in which the related_product_definition is used in the
context of the relating_product_definition.

Remove second paragraph - add a product structure example and a support resource example.

Product structure example:

Example - The assembly trees established for production, sometimes, contain additional intermediate levels. In such a case the design phase relationship between a component and the assembly in which it is contained, may be replaced by several intermediate relationships during production. "

Support resource example:

EXAMPLE – A given product may be used in a support role with respect to another product. A screwdriver may be identified as a resource to be used for the maintenance life cycle stage of a given product. In such a case, the support resource relationship between the scredriver and the product for which it is identified to be used for maintenance activities may be specified.

Remove redefinitions of the inherited attributes, **relating_product_definition** and **related_product_definition**.

Issue: UK044-012
Author: Julian Fowler
Clause: 5
Classification: Minor Technical

Description:

I find it difficult to understand the rationale for this schema: in particular, I see no
 clear distinction between product_concept and product_definition.

Proposed resolution:

Clarify definitions, adding examples. If there is no real difference between
product_concept and product_definition.

RESOLUTION:

Accept -

OBE - see FRA 44-23

Issue: UK044-013   Author: Julian Fowler
Clause: 5.3.3, 5.3.   Classification: Minor Technical

Description:

What is the intended distinction between a product_concept and a product_concept_feature? If the latter is "the idea of a product" and the latter "part of the idea of a product" then they should be represented by the same entity type (product_concept), and necessary whole:part assocations modelled using product_concept_relationship.

Proposed resolution:

Delete these two entity types (and those documented in 5.3.5 - 5.3.7)

RESOLUTION:

Accept -

OBE - see FRA 44-27

Issue: UK044-014   Author: Julian Fowler
Clause: 6.4.4   Classification: Minor Technical

Description:

The use of a separate construct to specify the name of a configuration design is inconsistent with
the rest of the STEP IRs. Either this should be a local (.name) attribute, or a more generic, flexible
mechanism for assignment of descriptions should be applied to all IR constructs.

Proposed resolution:

Either:
(a) add a local .name attribute, or
(b) develop a general mechanism for assignment of names
In the short term, option (a) is preferred

RESOLUTION:

Dferred to future edition - see NL 44-2

Issue: UK044-015   Author: Julian Fowler
Clause: 6.4.5   Classification: Minor Technical

Description:

The use of a separate construct to specify the description of a configuration_design is inconsistent
with the rest of the STEP IRs. Either this should be a local (.description) attribute, or a more
generic, flexible mechanism for assignment of descriptions should be applied to all IR constructs.

Proposed resolution:

Either:
(a) add a local .descrption attribute, or
(b) develop a general mechanism for assignment of descriptions
In the short term, option (a) is preferred

RESOLUTION:

Deferred to next edition - see NL 44-4

ISSUE NUMBER: USA NWI/CD44 -1
AUTHOR: USA
CLAUSE: 4.3.1 (alternate-product-relationship)
CLASSIFICATION   minor technical

DESCRIPTION:

According to the definition and examples, whether or not a part is an
alternate part is dependent on organization. If this is the case, then
organization must be an attribute of an alternate-product-relationship.
If alternate parts are not dependent on organization, then, the last
line of the example is incorrect.

PROPOSED SOLUTION:
RESOLUTION:

Accept - remove the third paragraph of 4.3.1, remove "within the organization" from second
paragraph, remove references to "organization" from the example, and delete the last sentence of
the example.

ISSUE NUMBER: USA NWI/CD44 -2
AUTHOR: USA
CLAUSE: 4.3.3 (make_from_useage_option)
CLASSIFICATION   major technical

DESCRIPTION:

According to the definition and examples, the ranking of the
make_from_useage_option is dependent on organization. It is stated that
merging information from different organizations would result in
meaningless results.   If this is the case, then organization should
be an attribute of a make_from_useage_option. If alternate parts are
not dependent on organization, then, Note 2 is in error.

PROPOSED SOLUTION:
RESOLUTION:

Accept - remove note 2.

ISSUE NUMBER: USA NWI/CD44 -3
AUTHOR: USA
CLAUSE: 4.3.3 (make_from_useage_option)
CLASSIFICATION   minor technical

DESCRIPTION:

The attribute quantity points to measure_with_unit in ISO 10303-41,
measure_schema. This particular choice of pointers allows the use of

measurements that are inappropriate to parts and materials. For
example: thermodynamic temperature, luminous intensity and solid
angles.

PROPOSED SOLUTION:

Issue Number: USA NWI/CD41-LL27 proposes the creation of a new type,
"batch_size_select" which allows the designation of either an
"integer_count_measure" (a unitless quantity) or a
"material_measure_with_unit" (a new entity that is a subtype of
measure_with_unit and a supertype of one of mass volume area length.)
Pointing to this new type would eliminate the use of the inappropriate
units.

1.   In the EXPRESS specification, change "quantity:
measure_with_unit" to read "quantity: batch_size_select".

RESOLUTION:

Accept -

Rewrite the definition of the attribute to say, "The amount of the relating_pd that can be made
from the related_product_definition." The measure types have been reveiwed and possible
applicability is fairly wide in different industries. There are possibly 2 or 3 types that can be said
with a fair degree of certainty that they are not applicable, but the benefit of constraining is
minimal. Therefore the attribute type will remain the same.

ISSUE NUMBER: USA NWI/CD44 -4
AUTHOR: USA
CLAUSE: 4.3.11 (assembly_component_usage_substitute_with_ranking)
CLASSIFICATION   major technical

DESCRIPTION:

According to the definition and examples, the ranking of the
assembly_component_useage_substitute_ with_ ranking is dependent on
organization. It is stated that merging information from different
organizations would result in meaningless results. If this is the
case, then organization should be an attribute of an
assembly_component_useage_substitute_with_ranking. If alternate parts
are not dependent on organization, then, Note 2 is in error.

PROPOSED SOLUTION:
RESOLUTION:

Accept - remove the note.

ISSUE NUMBER: USA NWI/CD44 -5
AUTHOR: USA

CLAUSE: 6.1 (configuration management, introduction)
CLASSIFICATION   minor technical

DESCRIPTION:

There are many other ways of identifying effectivity other than just by
serial number, lot number or date, for example, effectivity could be
specified by location (retrofit all the B-52 aircraft at Grand Forks,
AFB), or event (the change is effective when current stocks are
exhausted.)

PROPOSED SOLUTION:

1.   Change the eighth subpara from "There are three ways to apply
configuration_effectivity. They are:" to read "Three of the ways to
apply configuration_effectivity are:"

RESOLUTION:

Accept -

Incorporate the proposed solution

ISSUE NUMBER: USA NWI/CD44 -6
AUTHOR: USA
CLAUSE: 6.2
CLASSIFICATION   minor technical

DESCRIPTION:

The first of the listed "fundamental concepts related to configuration
management" is invalid. The application of configuration management
is NOT limited to products and parts of products to be manufactured by
the organization. In fact, configuration management is applied by
design organizations that will never manufacture the product or part of
the product. Also, procuring organizations frequently exercise the
application of configuration management over the internal design of
purchased items which they do not manufacture. The US Department of
Defense is a prime example of both of these examples.

PROPOSED SOLUTION:

Change the first of the listed "fundamental concepts related to
configuration management" from "Configuration management within an
organization may be applied to products and parts of products to be
manufactured by that organization. Configuration of parts supplied by
a vendor is not included." to read "Configuration management within an
organization may be applied to products and parts of products to be
designed or manufactured by that organization. The configuration

management of parts supplied by a vendor usually is not exercised by
the procuring organization but instead is performed by the vendor."

RESOLUTION:

Accept -

Modify the sentence to read:

"Configuration management may be applied to products and parts of products to be designed or
manufactured."

The second sentence has been deleted by FRA 44-35.

ISSUE NUMBER: USA NWI/CD44 -7
AUTHOR: USA
CLAUSE: 6.2
CLASSIFICATION   minor technical

DESCRIPTION:

The second of the listed "fundamental concepts related to configuration
management" is invalid. While it is true that organizations determine
which products are to be under their configuration management control
and usually designate them as configuration items, it is not true that
these are always "higher level functional elements" nor is it true that
they always act as the focal point for effectivity of lower level
constituents.

Example: A bolt can be a configuration item if the organization
decides to make it one.

Example: The effectivity of a change to a circuit board can be
specified at the circuit board level instead of at the end-item,
electronic unit (configuration item) level. This is frequently done
when the change to the circuit board does not result in the
re-identification of the product at the configuration item level.

PROPOSED SOLUTION:

In the second of the listed "fundamental concepts related to
configuration management" change from "... These are higher-level
functional elements that act as the focal points for managing the
effectivity of lower-level constituents." to read "... These usually
are higher-level functional elements that can be used as the focal
points for managing the effectivity of lower-level constituents."

RESOLUTION:

Accept -

Insert only the word, "usually" into the sentence.

ISSUE NUMBER: USA NWI/CD44 -8
AUTHOR: USA
CLAUSE: 6.4.1 (configuration_item)
CLASSIFICATION   minor technical

DESCRIPTION:

The definition of a configuration item is unacceptable because: (a) the
second sentence ("The design and production of the composition and
constituents for this identified unit is an approach for configuration
management.") is gibberish, and (b) the third sentence ("Configuration
management information is always represented using these configuration
items.") is a false statement because configuration management can, and
should be, applied to many items that are not configuration items (for
example, documents) and is frequently represented at much lower levels
than configuration items.

PROPOSED SOLUTION:

Use the definition of configuration item already contained in ISO 10007
(Quality Management-Guidelines for configuration management) para 3.8.

In 6.4.1, replace the first paragraph with "A configuration_item is the
aggregation of hardware, software, processed materials, services, or
any of its discrete portions, that is designated for configuration
management and treated as a single entity in the configuration
management process."

RESOLUTION:

Accept -

OBE - see FRA 44-2

ISSUE NUMBER: USA NWI/CD44 -9
AUTHOR: USA
CLAUSE: 6.4.1 (configuration_item)
CLASSIFICATION   minor technical

DESCRIPTION:

The identifier of a configuration item may not always be unique.
Several conventions used within the US DOD require both the identifier
and the name to determine uniqueness. For example there is an M1A1

(identifier) Bradley Tank (name) and an M1A1 (identifier) Howitzer explosive projectile (name). Clearly, specifying only the identifier (M1A1) would not provide the uniqueness necessary.   The US Navy uses a similar system where MK 1 Mod 0 as an identifier could apply to a 2000 lb. bomb, a radar set, or a parachute.

PROPOSED SOLUTION:

Use the combination of the id and name for uniqueness.

1.   In the EXPRESS specification, change "UR1: id;" to read "UR1: id, name;".

2.   In the Formal propositions change "UR1: The value of the id attribute shall be unique."

To read "UR1: The combination of the value of the id and name attributes shall be unique." Add note or example that explains that the unique ID may in fact be composed of several other bits of information to make it unique. In the attribute definitions, after the definition for id, insert the following:

NOTE - In many cases, this is not a simple identifier, but is a compound attribute   consisting of the concatenation of a designation and a name; for example: "M1A3   explosive projectile, 155 mm"

US REVIEW TEAM COMMENT:

A note or example explaining that the id may be composed of several bits of information to make it unique may be of value.

RESOLUTION:

Accept:

Remove the uniqueness constraint.

ISSUE NUMBER: USA NWI/CD44 -10
AUTHOR: USA
CLAUSE: 6.4.2 (configuration_design)
CLASSIFICATION   editorial

DESCRIPTION:

Not all configuration controlled items are configuration items. For example: (1) circuit board assemblies are usually configuration controlled items, but the end product in which they are installed is the configuration item; (2) a configuration management plan and ISO

10303-44 are a configuration controlled items, but are not configuration items.

According to the EXPRESS specification and the EXPRESS-G diagrams, a configuration_design relates a product design with a configuration_item.

PROPOSED SOLUTION:

In the first line, replace "configuration-controlled item" with "configuration item"

RESOLUTION:

Accept -

Incorporate the proposed solution. Also, add the following definition of "configuration item" to clause 3 -

"A product or any of the discrete portions of a product, that is designated for configuration management and treated as a single unit in the configuration management process."

ISSUE NUMBER: USA NWI/CD44 -11
AUTHOR: USA
CLAUSE: 6.4.2 (configuration_design)
CLASSIFICATION   editorial

DESCRIPTION:

Contrary to the statement in Note 1, there is no requirement that Configuration Items be designated before the design details are worked out. Usually, the top-most level configuration Item is designated before the design details are worked out, but lower-level configuration Items are frequently not designated until after all design work is complete.

PROPOSED SOLUTION:

Change the first line of Note 1 from "NOTE 1 - Organizations establish..." to read "NOTE 1 - Organizations usually establish..."

RESOLUTION:

Accept -

OBE - see FRA 44-39

ISSUE NUMBER: USA NWI/CD44 -12
AUTHOR: USA

CLAUSE: 6.4.6 (configurable_item)
CLASSIFICATION   editorial

DESCRIPTION:

The note ("NOTE - The design and production of the composition and
constituents for this identified unit is an approach for configuration
management.") is gibberish.

PROPOSED SOLUTION:

Delete the Note.

RESOLUTION:

Accept -

Note will be removed.

ISSUE NUMBER: USA NWI/CD44 -13
AUTHOR: USA
CLAUSE: 4.3.3 and 4.3.11 Page Number: 11 and 22
CLASSIFICATION   minor technical

DESCRIPTION:

These two entities include the concept of ranking, yet they define
ranking inconsistently. Within make_from_usage_option, there is a
constraint on the ranking attribute, requiring it to be greater than 0.
There is no such constraint defined for the ranking attribute of
assembly_component_usage_substitute_with_ranking.

PROPOSED SOLUTION:

Since generic resources should be as flexible as possible, eliminate the
contraint within make_from_usage_option, allowing those that use this
entity and assembly_component_usage_substitute_with_ranking to add a
constraint, if necessary.

RECOMMENDATION:

Definitions should be made consistent.

RESOLUTION:

Accept - OBE (see FRA 44-7)

ISSUE NUMBER: USA NWI/CD44 -14
AUTHOR: USA

CLAUSE: 3.2 Page Number: 3
CLASSIFICATION   editorial

DESCRIPTION:

Since the definition within this section is to be extensively used
within more than just Part 41 (as they are; e.g., Part 43 and Part 44
NWI), this definition should eventually migrate to Part 1 of ISO 10303.
A note should be added informing the reader of this. This change would
be consistent with that found in Part 43 (similar issue raised on Part
41).

PROPOSED SOLUTION:

Add the following footnote following the phrase "...the following term
defined in ISO 10303-41:" - "Since this defintion is commonly referred
to within other parts of ISO 10303, it is anticipated that this
definition will ultimately migrate to a Revision of ISO 10303-1.".

RESOLUTION:

Transfer to QC

ISSUE NUMBER: USA NWI/CD44 -15
AUTHOR: USA
CLAUSE: 5.3.3, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 6.4.6
CLASSIFICATION   editorial

DESCRIPTION:

Especially since these entites are new, based on SEDS issues raised
against the 1994 IS version of Part 44, it would be very helpful to
include examples to clarify what these entities are, and what
requirements they are trying to support.

PROPOSED SOLUTION:

RESOLUTION:

Accept -

A comprehensive examples is being provided that covers the product_concept_feature,
conditional_concept_feature, concept_feature_relationship, and concept_feature_relationship_
with_condition to be provided by J. Mohrmann.

ISSUE NUMBER: USA NWI/CD44 -16
AUTHOR: USA
CLAUSE: Foreword
CLASSIFICATION   editorial

DESCRIPTION:

The table lists the changes in this part from the first edition, and
lists the corresponding SEDS number. However, the text does not tell
the reader what SEDS is.

PROPOSED SOLUTION:

(1)   Remove the column labels SEDS number (my preferred solution) or
(2)   add a complete reference to the SEDS document, i.e., SC4
document number, date, etc.

RESOLUTION:

Accept -

Add footnote analogous to what has been done in Part 43 that identifies the meaning of SEDS.

ISSUE NUMBER: USA NWI/CD44 -17
AUTHOR: USA
CLAUSE: Foreword
CLASSIFICATION   editorial

DESCRIPTION:

The ISO Directives require that a second edition describe the changes
between that edition and the previous edition. I interpret this as
meaning any substantial technical change, editorial changes excepted.
I have learned that there are technical changes between the CD and the
previous edition that are not documented in the table. The Foreword
should contain a record of all technical changes, not just those
originating from SEDS issues.

PROPOSED SOLUTION:

Extend Table 1 to include all technical changes in the document. Amend
the table as necessary following the ballot resolution process.

RESOLUTION:

Unpersuasive -

As far as the editor knows, all technical changes to the part have been incorporated into the
foreword an related to a SEDS issue.